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REQUIRED READING FOR THE CHAUTAUQUA LITERARY AND SCIENTIFIC CIRCLE.

THE POLITICS WHICH MADE AND UNMADE ROME.

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FIRST PAPER.

IT is generally admitted that with possibly one exception, the most important nationality that ever has existed was the nationality of Rome. In using the word important, I mean, of course, all of those national peculiarities and characteristics which influenced in one way or another the condition, the happiness, and the civilization of mankind. What was it that gave Rome its power? How did it acquire and so long maintain its transcendent importance? What was the secret of its skill in organization and administration? What made it so tolerable and sometimes even so beneficent? Why was it able so long to maintain its ascendancy, and why, in the end, was it forced to succumb? These are questions which cannot be answered without first having a pretty clear understanding of some of the essential characteristics of Roman society and Roman government.

I. THE ORGANIZATION OF SOCIETY.—The organization of Roman society rested in a very exceptional and peculiar sense on the organization of the family. The father was head of the family, not simply in the modern, limited sense of the term, but in that absolute sense which gave him power even over the life of his wife and children. He could kill either of them at will with impunity. This power continued as long as the father lived. The son never came to be of age in the sense of being exempt from the

father's absolute control. The family altar was the symbol of family unity and at that altar the father was the recognized priest.*

A group of families constituted the clan, a group of clans, a canton, and a group of cantons a tribe, and three tribes constituted the state.†

Precisely what the details of this organization were, it is impossible now to determine with historical accuracy. Nor is such determination important. All that in this connection we need to know is, that the state was made up of a number of distinct groups, each group consisting of a number of smaller groups, and these in turn of families related to one another by ties of blood. At the time when the organization of society took

* To this general statement, however, one exception must be made. Whenever a daughter married, she ceased to be a member of her father's family and became a member of the family of her husband. This principle was carried so far, that for legal purposes the children of daughters were not regarded as related to the children of sons. It was only through male descent that kinship was acknowledged. It will be seen at once that this plan of organization gave to the family remarkable unity and solidarity.—C. K. A.

† It is evident that if each tribe consisted of ten cantons, each canton of ten clans, and each clan of ten families, there would be thirty cantons, three hundred clans, and three thousand families. That so artificial an organization ever existed, there is no reason whatever to suppose; but certain known characteristics would be accounted for by such an actual or even theoretical organization. For example, it is known that each clan furnished one senator, and that the senate in its early organization consisted of three hundred members. Each family, moreover, furnished a foot soldier (*miles*, or thousand-goer) so called presumably because the number in each tribe was theoretically at least one thousand.—C. K. A.

on what may be called a fixed constitutional form, there is reason to think that the cantons were thirty and the clans three hundred in number. There is some reason also to suppose that each clan consisted of about ten families. At least we cannot escape from the evidence that there was an intimate connection between the family and the state. The authority of the ruler over the state was similar in kind to the authority of the father over his family. The king was simply a father with authority extending over a larger number of subjects.

2. THE CIVIL GOVERNMENT.—In its earliest form the government was simple in its organization. As the father stood at the head of the family, the analogy above mentioned required that there should be a ruler or leader at the head of the state. Whether this ruler was at first formally elected, or whether his pre-eminence and powers enabled him to assume the position with common consent, cannot now be historically determined, for he was in power long before any record of events was preserved. What now seems to be certain is that the ruler never thought of ruling without the consent of the governed. Although it is customary and convenient to speak of the period of the kings, it is quite correct to say that the government of Rome was, from the first, essentially republican in its nature. Rome never gave color to any such principle as divine right. It seems to be certain that the early rulers generally held office for life, but this fact did not prevent the people from deposing a king whenever they felt that the welfare of the state required such action. The king had the right of naming a successor, but this was always regarded as an acquired and not an inherent right. When the king neglected to exercise this right, the custom prescribed the method by which the successor should be chosen. Before speaking of the king's powers it is necessary to speak of the early assemblies.

The most popular of these was the *comitia curiata*. It was an assembly consisting of all the freeholders. It was convoked regularly twice a year, and at such intermediate periods as was thought by the king to be necessary. The members had no power of speech or deliberation except such as might be given them by the king. The king addressed them questions, and they returned simple answers, approving or disapproving as they saw fit. The laws were the result of this process. A

new law never could be framed without the consent of the people procured in this way. With this consent any law could be enacted, that is to say, there were no constitutional limitations upon legislative authority. But the initiative was always with the king.

The other and less popular assembly was the senate. As above stated, it consisted of three hundred members, one from each clan. As to how it originated, there is some doubt. The most probable conjecture appears to be that originally each of the clans had its own leader and that these came together as an assembly, as soon as the state had taken on a political form. It is probable, therefore, that the senate was coeval with the state. What is more certain, however, is the nature of the senate's authority. The senators sat for life, and ever after what may be called historical times, they were appointed by the king. Whenever a king died without naming a successor, a senator was chosen by lot to hold the position for five days. This five-days-king, known as *interrex*, appointed a successor who also ruled but five days. This second *interrex* nominated a permanent king, but the choice had to be confirmed by the *comitia curiata*. In a very important sense the senate, throughout Roman history, was the ultimate ruling power. It seems from the first to have been the guardian of the customs of the fathers, in other words the guardian of the constitution. It examined every new resolution that the king proposed. In case any existing right appeared to be threatened, it had the privilege of absolute veto. The senate's consent also had to be obtained before war could be declared. Generally, though not universally, the consent of the senate was obtained before a question was submitted to the popular assembly. The senate could not meet unless convoked by the king, nor could senators speak except in reply to questions proposed by the same authority. The king was not obliged to consult the senate on any other than matters involving constitutional questions; but as time went on, consultation became more and more usual, and the power and influence of the senate became more and more important.

3. MILITARY ORGANIZATION.—Rome has generally been regarded as in a very emphatic sense a military nation. Montesquieu, Merville, and other writers of eminence have represented the early history of Rome as made up largely if not indeed chiefly of a series of

depredations committed by robber hordes. That the Romans were capable of achieving great military results is certain; but that they were exceptionally aggressive, admits of no proof whatever. Indeed there is far more evidence that they were exceptionally inclined to certain other things than to war. But there was unquestionably one striking peculiarity of their military methods that ought not to be overlooked. This is the fact that their military achievements were the results of extraordinary skill in organization and discipline rather than the results of extraordinary individual prowess.*

No nation—not even modern Germany—has ever attached so much importance in military affairs to the invariable subordination of individual life and comfort to the great general object to be attained. This principle was carried into all branches of the service, and was at all times most rigorously enforced. The very name of the army, *exercitus*, implied constant exercise, and constant exercise meant interminable practice in the most exacting details of military drill and military evolution. Even when on the march, it was customary, whether the army was near the enemy or not, to throw up defensive earth-works completely around the encampment at every night's halt. Discipline in a comprehensive sense was the secret of all Roman success in war.†

4. THE GEOGRAPHICAL SITUATION.—The early ascendancy of the Romans over the other Latin peoples of Italy must have been aided, and may even have been determined, by geographical and topographical peculiarities. The hills on which the city was built were high enough for observation and fortification, without being so high as to interfere with easy ingress and egress. Situated on a navigable river the inhabitants were far enough from its mouth easily to prevent the incursions of marauders, and near enough to facilitate every species of commerce with the outer world. The rich plains surrounding the city and stretching far away to the south afforded abundant agricultural supplies.

* The typical illustration of this peculiarity is the example of a commander who put his son to death for fighting and winning a battle when he had been commanded not to fight.—C. K. A.

† The commander Manlius (Roman consul in 392 B. C.) is represented as saying: *Disciplinam militarem qua stetit ad hanc diem Romana res.* (Military discipline, by means of which the Roman state stands unshaken to this day.)

These fields were open to hostile incursions from the Apennines, and hence early became a source of frequent strife between the Romans and their neighbors. Roman discipline and organization gradually prevailed. In the course of two centuries the Romans found themselves masters of a large part of central Italy. In the collisions that ensued from time to time along the borders, the higher type of civilization always in the end prevailed. Italy was covered with fierce and warlike tribes; and these naturally looked with dread upon the ever widening power of Rome. Combinations against the growing city therefore became common. It is not necessary to assume that Rome was aggressive; but when attacked, she often defended herself by conquering and disarming her assailant. Thus, whether by aggressive or by defensive policy, her frontiers advanced farther and farther away from the center of power. It is the more civilized and the more perfectly organized nation that gains upon and finally absorbs the other. And thus it was by a perfectly natural process that Rome first made herself mistress of Italy and then mistress of the greater part of the known world. But the work was not accomplished in less than about a thousand years.

5. THE FOREIGN ELEMENT AND HOW IT WAS TREATED.—The earliest political organization of Rome seems to have been the result of the political amalgamation of three tribes, the Ramnes, the Tities, and the Luceres. The first gave their name to the people as a whole, as the Angles gave theirs to the united Angles, Jutes, and Saxons who took possession of Britain. By a similar process of transformation the Ramnians came to be called Romans, as the Angles came to be called English. But there is reason to believe that from the very first, there was a foreign element among the Romans. The proof of this is in a very simple fact. Although the institutions were organized in very strict accordance with the family methods above described, yet there were three classes of people in society that were not admitted to this plan of organization. These were the plebs, the clients, and the slaves.

The plebs, or plebeians, could not intermarry with a Roman family, they did not enter the army, they could not hold any political office, they were not members of the senate nor of the *comitia curiata*. At the

same time they were entitled to some of the privileges of citizenship. For example, they were protected in their commercial interests, they were permitted to pursue ordinary vocations, and the courts gave them protection of their persons and property. In short, they were personally but not politically free. It is probable that in the beginning they were the people conquered by the Roman patricians. Perhaps they surrendered their territory on condition of being allowed personal rights without the rights of citizenship. As time passed on, the number was increased, partly by the natural growth of population, and partly by the conquest of other cities whose walls were destroyed. Increasing by these methods much more rapidly than the patrician class, they soon, as we shall hereafter see, became an all important element in the political development and progress of the Roman state.

Early in Roman history there was another class of non-citizens, known as clients. These were individually attached, in a purely personal way, to individual patricians. There are some reasons for thinking that this relation was established as early as the first period of Roman political organization. The clients enjoyed some measure of personal independence, but all social transactions, to be legally binding, had to be conducted by their patrons. They never formed a very important element in the community; and as their numbers were not systematically increased by new recruits, they became less and less important as history advanced, and finally were merged, and so lost altogether, in the general class of plebeians.

A third class was formed by the slaves. These were not numerous in early Roman society. But as history went on, the number increased rapidly; and they became one of the most troublesome elements of Roman political life. The rapid increase of their numbers was insured by the custom of selling into slavery all prisoners of war. As the power of the republic increased and expanded, the number of prisoners became very great; and as these were sold at public auction, they found their way as slaves into all the industries and nearly all the vocations of the state. The number thrown upon the market made them so cheap in price that all but the very poorest could buy them; and their abnegation was so complete that any master could put his slaves to death at will.

6. VOCATIONS.—It has often been said that the principal vocation of the early Romans was war. But it is not necessary to hold this view in order to account for the growth of the state. On the contrary, modern investigation has revealed certain characteristics which cannot easily be explained by the theories that formerly prevailed. It now seems certain that the commercial importance of early Rome was far greater than has generally been supposed. The evidence now seems to indicate that Rome even in the time of the kings was a city of wealth and commercial prosperity. Fortunately ruins of some of the early works are still preserved. The *Cloaca Maxima* is after a lapse of nearly twenty-five hundred years in almost perfect condition. Other structures, partially preserved, give similar testimony to the building methods that prevailed as early as six hundred years before Christ. They are the methods characteristic of an aristocracy that is at the same time wealthy, hereditary, commercially prosperous, and politically powerful. The prosperity that prevailed was of a kind not unlike the prosperity of mediæval Venice. Although Veii and some of the other cities east of Rome gave them much trouble, still the Romans made almost uninterrupted progress in getting control of the rich agricultural plains that spread out to the south and south-west of the city. It was to commerce and agriculture that their rapidly increasing wealth was due; while it was to their political and military systems that they owed the protection of their wealth when once it had been accumulated.

7. COLONIZATION.—One of the most interesting features of Roman political methods was their system of colonization. Whenever a city was conquered, the Roman government decided as to how it should in the future be governed. The question was answered according to circumstances. If the contest had been bitter and the defense obstinate, the city was sometimes completely destroyed. But more frequently the political rights of the conquered citizens were taken away and colonies of Romans were planted and given complete political power. In the exercise of this power the colonies were protected by a military force. Those who went out as colonists were of the plebeian class, but in the new home they became essentially patricians. Under the military protection of Rome they

were bound to render support to the Roman government, whenever such support might be needed. Sometimes a Roman military governor was placed in the city, but more frequently such an official was needed only at the capital city of a conquered province. By this plan it will be seen that Rome kept her hand in a systematic way upon all the newly acquired territory. The point to be kept well in mind is the fact that as the process of getting control of the whole of Italy was going on, there were growing up in all parts of the peninsula, centers of political

and commercial activity of the greatest social importance. They served at once to furnish an outlet for the superfluous population of Rome, and a bond of union between the frontiers and the central government. Meantime, it is to be remembered that the supreme political authority over the whole, continued to be exercised by Rome itself. While the colonies had a measure of local independence, they had no voice either directly or indirectly in the government of the state as a whole. There was no system of representation.

THE LIFE OF THE ROMANS.

BY PRINCIPAL JAMES DONALDSON, LL. D.

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PART I.

PERHAPS there is nothing more striking in the history of mankind than the extension of the dominion of Rome when once the Roman people began to carry their arms beyond their neighborhood. According to the prevalent computation, Rome was founded in 753 B. C. Tradition represents the town as built by shepherds and as the refuge of the desperate outlaws of surrounding cities.

In process of time these men are described as increasing in numbers, as governed by a king, and as acquiring considerable possessions. But at the end of two hundred forty-four years, according to tradition which appears to be most trustworthy, the city is so weak that it is conquered by an Etruscan prince and has to submit to his terms. Then a republican government is established, but it does not prove more successful than the regal, for after upward of a hundred years Rome is still so feeble that it spends ten years in laying siege to Veii, a city not twenty miles distant, and shortly after this place is taken, the town of Rome is itself burned to the ground by a horde of barbarians. In these sad circumstances the people of Rome hesitated whether they would abandon their ruined homes for the place which they had recently conquered or whether they would rebuild them. They resolved to rebuild them and after an interval of rest they again began to fight with their neighbors. From that time their success in con-

quering all their opponents is marvelous. In little more than a hundred years after the burning of the city they became masters of the whole of Italy from the confines of Cisalpine Gaul to the Straits of Messina.

The next century saw them engage in a life and death struggle with the greatest enemy they ever had to encounter; and their national spirit and dogged perseverance amid manifold disasters ultimately triumphed. In that century they added Cisalpine Gaul to their territories and passing beyond the continent of Italy they subdued Sicily and Carthage and obtained a permanent footing in Spain. In the next century they conquered Greece and Macedonia, they increased their possessions in Spain, they hurled back a tremendous irruption of barbarians, and occupied ground in Gaul. In the next century they proceeded to Asia Minor and Syria, to Gaul, Germany, and Britain, and to other parts of the world. And thus within four centuries one city had brought within its sway nearly the whole civilized world. That city still remained a city and not a country. Doubtless it had so arranged matters that men of various nations might become citizens of Rome; but it was in Rome and only by personal presence in Rome that any citizen could exercise his full rights of citizenship and take his part in governing the Roman world.

Such an extraordinary phenomenon as one city governing nearly the whole of Europe, a large part of Asia, and considerable portion of Africa, arrests the attention. How did such

an event take place? What were the characteristics of the men who achieved this singular success?

Both foreign and native authors point to the religious character of the Romans as the most striking feature of their personality. In discussing the growth of the Roman dominion, Polybius* lays particular stress on the attention paid by the people to the gods and to all religious rites. Cicero† states the matter concisely. "If we wish to compare our condition with that of foreigners, we shall be found either equal or inferior in other matters, but much superior in religion, that is, in the worship of the gods" (*De Nat. II. 3. 8*). And the same remark is made by other Greek and Latin writers. This religion was of an eminently practical cast. The old Romans, as far as we know, indulged in no speculations regarding the nature of the gods or the creation of man or of the universe. Their religion consisted in the conciliation of the gods by rites and sacrifices, in endeavoring to find out and obey the will of the gods as indicated by augury, and in propitiating the divine rulers when they showed their anger through portents and prodigies. The word *religio* is used continually in the Latin writers to signify a scruple, and scrupulosity is the prominent characteristic of the Roman worship. All the formulas of worship were carefully written out and preserved by the priests. In offering a sacrifice the offerer had to follow the priest in pronouncing the prayer, and it was essential that both priest and offerer should say the words in exact order and without stuttering. In all cases of consecration or propitiation the same correctness of action was deemed absolutely necessary. If a wrong vessel was used, if the flute-player stopped in the midst of his piping, if an actor stood still in the performance of plays acted at games which were held in honor of the gods, if a horse stumbled in a religious procession, if the young people who were employed in the service omitted through forgetfulness or carelessness any part of their duty, it was inferred that the gods were not satisfied, and an expiatory sacrifice must be performed and the rite begun again. We are told that on one occasion a sacrifice was performed thirty times owing to slight mistakes occurring in the service. Nay, so scrupulous were they that knowing that human nature was likely to err

and that errors might escape detection, they provided a sacrifice which was to atone beforehand for any unobserved slip that might take place.

The Romans regarded every action as being under the superintendence of some god whose favor they were bound to try to procure. This applied to all the daily occupations. Prayer and sacrifices were offered up to the special gods who helped the mother in childbirth, who taught the infant to eat and drink, walk and remember, who turned the boy into a young man, who watched over his marriage, and who presided at his death. The gods also directed all the operations of agriculture and were the causes of fountains, rivers, and hills. In fact, their presence was everywhere and all of them demanded worship in the special circumstances peculiar to each.

The Romans did nothing without endeavoring to find out the will of the gods through augury. They believed that birds, particularly by their cries and modes of flight, indicated the desires of the gods, and they strove to obey every indication which was thus furnished to them. But especially when monstrosities appeared, when earthquakes occurred, when lightning struck the ground, they took the utmost care that the proper sacrifices were offered up, that the right ceremonial was observed, and that every god was duly appeased; and in order not to commit any mistake in so important a matter, they sometimes offered their sacrifices to the god or goddess who may have brought on the calamity, without mentioning any name, since it was uncertain to what god they ought to sacrifice.

Such was the scrupulosity of the old Romans in their religious ceremonies. In later times skepticism invaded the more cultivated Romans, though the masses of the people seemed to have remained true to the ancient faith and practices. Some of the most illustrious generals and many of the greatest orators and poets despised the auguries, and the popular religion became a subject of philosophic contempt. But even amid this contempt a feeling prevailed that it was wise to adhere to the religious practices of their ancestors, and one of the means deemed most effective by Augustus for restoring the old Roman character was a revival of the rites and ceremonies, the prayers and sacrifices, of the religion of early Rome.

Along with this scrupulosity and indeed

* See "Latin Courses in English," p. 219.

† See "Latin Courses in English," p. 107.

partly arising out of it can be traced a liberalizing tendency which slowly and perhaps unconsciously to the Romans carried the day. Whenever any extraordinary occurrence took place, the Romans were sure that the gods were angry. But their religious books often afforded them no means of ascertaining what gods were offended and by what rites they could be appeased. Accordingly rather than let the gods remain unpropitiated they consulted foreign religious books and by their suggestion introduced the worship of foreign gods and the observance of foreign rites. Thus it became the regular custom on special occasions to consult the Sibylline books,* and a college of priests was instituted to perform this duty.

This conduct in religious affairs was only in consonance with their action in other matters. They were conservative and clung to the custom of their ancestors. They were not, however, rigidly conservative, but adapted themselves to new circumstances and altered their practice when convictions became strong.

All testimony bears out that the Romans were an agricultural people. For a long time they lived within the bounds of the Roman territory, having little intercourse with foreigners and indeed only limited intercourse with the neighboring cities of Latium, with which they were connected by race. A quiet, staid life it must have been. The males of the household, father, sons, and slaves worked at the land and looked after the cattle. The women wove and made the clothes of the men as well as their own, and they baked the bread and prepared the meals and joined in any agricultural work that was suitable for them. All the family rose with the first dawn and set at once to work. They took a slight refreshment early in the day, dined at twelve, generally slept for an hour or two after this

* An old Roman legend relates that the most famous of all the prophetic women of the mythical period, the Cumæan sibyl, came to King Tarquin, offering to sell him nine books of prophecy, which she declared disclosed the destiny of the Roman people. The king refused to buy them unless he could first examine them, whereupon the sibyl burned three. She then offered the six for the same price that she had first demanded. On the king's second refusal she committed three more to the flames, and then asked the original sum for those then remaining. The king whose curiosity was now thoroughly aroused purchased the three. They were preserved in the temple of Jupiter Capitolinus, and no one doubted that they contained knowledge of the greatest importance; and, until they were destroyed at the burning of the temple, 83 B. C., they were always appealed to for direction.

B-Oct.

meal, especially in summer, and took their supper in the evening, when the day's work was over. They knew nothing of hours, for dials were not introduced into Rome till 263 B. C. So ignorant were the Romans of astronomical science, that, though the first dials in Rome were calculated for Catinae* in Sicily and therefore were inaccurate for Rome, the Romans remained unconscious of the fact for ninety-nine years. They measured their time by the events of the day, the dawn, the dinner time, the coming home of the cattle. And when at length hours came into vogue, they divided the daylight into twelve hours, so that the length of the hour varied with the length of the daylight.

The Romans, even the highest of them, carried on their agricultural pursuits to a late period in their history. Every one has heard how Cincinnatus† was called from the plough to the dictatorship. Cicero tells how the Senate used to be summoned by messengers to the various farms on which the members of that body worked. And he relates that in the beginning of the third century B. C., Manius Curius spent his old age in the operations of agriculture after he had triumphed over the Samnites, the Sabines, and Pyrrhus.

The Romans found rest from these labors of the field every eighth day when they went to market to exchange with each other the produce of their lands. And they also had their religious festivals. Horace‡ tells how on such occasions the families gathered round the table and listened to the stories of the exploits of their ancestors. But this rest and these agricultural operations were frequently interrupted by martial expeditions. Every freeman was a soldier and at the command of the state he left the care of his farm to his wife and slaves and accompanied by his sons marched out to fight the foe.

The Romans were thus above everything land-owners and soldiers, and it came to pass in the process of time that a strong prejudice grew up in favor of these pursuits. There cannot be a doubt that the high honor in

* Catania.

† A hero of the old Roman republic. In 458 B. C., during a war between the Romans and the Æquians, he was called to be dictator. The officers of the commonwealth found him at his plow. He called for his toga, that he might receive them with proper respect, and was at once installed in the highest office. He immediately marched against the enemy, conquered them, and compelled them to pass under the yoke. When the country was out of danger he went back to his simple home life and his plow.

‡ See "Latin Courses in English," p. 355.

which the land-owner and warrior are now held is mainly the result of this prejudice which has been handed down to us from the Romans. Of course in those early days war was not a trade or profession. It was only in the later period of their history that the Romans employed mercenaries. In ancient times every free male was trained in the military art, for a knowledge of it was requisite for the preservation of liberty and the state. Accordingly when Cicero compares the relative merits of the methods of gaining a livelihood, he does not mention the profession of a soldier. He puts agriculture, as might be expected, in the highest rank. There is nothing better, nothing more fruitful, more pleasant, more worthy of a freeman, and he describes in the *Cato Major** the delights of rural occupation. Indeed, he thought there was no other honorable way of earning a livelihood.

The Romans were never a commercial people. They always detested trade. And Cicero does not show himself superior to the prejudices of his time. He condemns all trades, such as those of the tax-gatherer and the usurer, which incur the hatred of men, all trades where the workmen are paid for their services and not for the articles which they make, all who work in shops or who like butchers, fishmongers, cooks, perfumers, minister to the pleasures of men, and all retail dealers of every kind. The Romans regarded retail trade as a kind of fraud. They did not see how it was just to buy an article for sixpence and sell it for eightpence. They regarded the retail dealer as getting the twopence by cheating and as necessarily having recourse to the arts of puffing and deceiving. None of these trades consisted with the dignity of a freeman. But there were one or two trades which rose somewhat above these, but were much below agriculture. He regards those trades as honorable which require intellect and accomplish some useful object, such as medicine, architecture, and teaching, but he adds that they were honorable only for those to whose rank they were suitable. The doctor was either a slave or a freeman and it was regarded for a long time as beneath the dignity of a freeman to practice medicine, though in the times of the Empire several Romans in high position took to this profession. The same was the

case in regard to architects and teachers. There was also another trade which he regarded as honorable. It was that of a merchant on a grand scale. The retail merchant he abhors, but he expresses respect for the merchant who ventures on large enterprises and he bestows special praise on him, if after having made his fortune he becomes a land-owner and takes to agricultural pursuits. It is remarkable how modern all these ideas are and it is interesting to note how the prejudices of the early agricultural period of Roman history have propagated themselves through the Middle Ages down to the present time.

We must turn to the constitution of the family to see the more intimate features of Roman life. The family was the foundation of the Roman State. At an early period the state was simply an aggregation of families, and no state privilege, none of the rights of citizenship, could be enjoyed by any one who was not a legitimate member of a Roman family. It was a very long time before the rights of man as man were at all recognized. The citizen of Rome must be the son of a father and a mother who were free born Romans, and to none other at first were the privileges of citizenship granted. But in politics as in religion, while the Romans were conservative, they were not doggedly so. They gradually extended the advantages of citizenship to others and they are specially remarkable for the generosity and prudence which they showed in freeing the slave and admitting his offspring to the full rights of citizenship.

The father was the head of the family and the other members consisted of the wife, the children, the wives of the sons and their children, and the slaves whether in actual slavery or freed by the will of the master. The traditional conception of the Roman family held that the father was the despotic head of this household, that he could do with one and all as he liked, and that they were bound to obey him at the risk of any penalty he might impose. This autocratic power had to be modified, and a whole history of the changes that took place in regard to each component element is contained in a short statement made by Velleius Paterculus.* That historian in relating the sad consequences of the civil war which ended the re-

* The full title of this work is *Cato Major Seu De Senectute*. See "Latin Courses in English," p. 451.

* (19 B. C.—31 A. D. (?)). A Roman historian.

public, asserts in regard to proscriptions that there was the greatest fidelity to the proscribed on the part of the wives, a fair amount on the part of freedmen, a little on the part of

slaves, and none on the part of sons. An examination into the history of the component elements of the family will show how this state of affairs had been brought about.

MACAULAY'S LAYS OF ANCIENT ROME.

PARAPHRASED BY ARLO BATES.

THE Lays of Macaulay are an attempt to reproduce, as nearly as may be, the ballads of adventure which the Roman folks used to sing in the days before the imitation of Grecian literature had caused the original Latin forms to drop into disuse. The subjects of these ballads were half fabulous, and the stories which Lord Macaulay has chosen, partake of this semi-mythical character. They are not to be received, of course, as genuine history, but they are to be found in the Roman historians, who probably obtained them from ballads of the very sort which have been imitated by Lord Macaulay in his rendering of them.

I.

HORATIUS.

A Lay Made about the Year of the City CCCLX.

After he had been expelled from Rome on account of his cruelty and wickedness and the crimes of his sons, the Emperor Tarquin sought aid to recover his throne and his crown. In Lars Porsena of Clusium he at length found an ally, and the latter, having sworn a solemn oath to restore Tarquin, sent out messengers through all the length and breadth of Etruria, to summon his subjects to arms.

From every Etrurian city and village the army gathered, and thirty augurs, the wisest in the land, were called upon to foretell the result of the expedition. Their predictions were most favorable, and Tarquin and Porsena were encouraged to go forth in the certainty of bringing in triumph to Clusium the sacred golden shields, the choicest of Rome's holy things. Great was the host that gathered, and to the Etruscans were joined the Latins under the leadership of Octavius Mamilius, who had married a daughter of Tarquin.

The tidings of the great army which had been gathered were received in Rome with the utmost terror. The Romans were just en-

deavoring to adapt themselves to the new and republican form of government which they had adopted upon the expulsion of the Tarquins, and they knew that they were in no condition to withstand the host that came against them. From all the country about Rome the people came crowding in, old and young, mothers with their babes clinging to them, and aged folk on crutches or carried in litters. Carts piled with household stuff or with the produce of the farm were mingled with herds of sheep and cattle, and every gate of the city was choked with the fugitives and their possessions. From the Tarpeian Rock could be seen the light of blazing villages which marked the approach of the Etruscans, and every hour came tidings of fresh disaster. The City Fathers were not long in seeing that the only way to save the city was to throw down the bridge over the Tiber, and even as they came to this decision a scout came riding in all haste to say that Lars Porsena was at hand. Almost at his heels came pressing the army of the enemy, with Tarquin, Porsena, Mamilius, and many other heroes. With them was Sextus, the son of Tarquin, and at sight of him a yell arose from the Romans, for the wrong he wrought on Lucretia, and the very children screamed out curses upon him.

The scout* was in dismay. "They will be upon us," he said sadly, "before we can destroy the bridge, and if they win the bridge, nothing can save the town." But Horatius, the captain of the gate, cried out manfully, "Hew the bridge down; the entrance is so narrow that three men can hold it against an army. With two to help me I will hinder the enemy until the bridge go down." Instantly sprang forward Spurius Lartius, a Ramnian, and Herminius, of Titian blood,

* The word was derived from *consulere* (Lat.), meaning to care for, and was the title given to the military officers who were elected to govern the republic after the expulsion of the kings.

and these three representatives of the three patrician tribes of Rome hurried forward to defend that perilous pass against the army of the allies.

The consul himself seized an ax and set the example of hewing away the supports of the bridge, while at the other end the brave three stood confronting the advance guard of the Tuscan army. A shout of derision rose from the enemy at sight of the three, and an equal number of chiefs, Aunus, Seius, and Picus, spurred out to slay them. Lartius hurled Aunus into the stream below; Herminius clove the head of Seius; and Horatius struck down Picus. Again and again, Tuscan warriors rushed forward, but the three Romans struck them down, until great Astur of Luna came forward, almost a giant, to dispute the pass. He rushed at Horatius, and raising his broadsword he smote him such a blow that although the Roman was able to turn it aside from his head it cut through his armor and wounded his thigh so that he reeled. An instant Horatius leaned upon Herminius, and then like a tiger he sprang forward and dashed the point of his sword into the very face of Astur. So mighty was the blow that the broadsword came out a hand's breadth behind the Tuscan's head, and with his foot pressed upon Astur's throat, Horatius was forced to tug thrice and four times to pull the blade away.

And now there was no sound of laughter in the ranks of the Tuscans. Sextus tried to bring himself to assail the champions of Rome, but his heart failed him, and there were none who wished to try to pass. But meanwhile the bridge hung tottering to its fall, and a shout called the three warriors back. Spurius Lartius and Herminius darted back, feeling the timbers giving way beneath them as they ran, and with a crash like thunder the bridge fell behind them. Alone stood Horatius, and with a shout of triumph, Porsena called upon him to yield. Not even deigning to notice the Tuscan, Horatius turned toward the river. "O father Tiber," he said, "I pray thee receive these arms and me who bear them, and let thy waters befriend and save me." And before the Tuscans were aware of his purpose he flung himself, all armed as he was, into the flood. Spent with fighting and weakened with loss of blood, weighed down with his armor, the ranks on either shore watching breathlessly, Horatius fought his way across the Tiber.

Even the Tuscans could scarcely forbear to cheer, and when at length he reached the Roman shore the City Fathers and the people pressed about him weeping and shouting with joy.

The city gave him rich rewards, and his statue was set up in the Comitium, and as long as Rome stood was the story of how he kept the bridge told from father to son among the people.

II.

THE BATTLE OF LAKE REGILLUS.

A Lay Sung at the Feast of Castor and Pollux, in the Year of the City CCCCLI.

Although the expedition of Porsena against Rome had failed, the Tarquin did not on that account relinquish his purpose to conquer the city. The Tuscans soon after this made peace with the Romans, and Tarquin thereupon went to the Latins, whose prince, Octavius Mamilius, was his son-in-law. Here his cause was once more taken up, and the thirty Latin cities sent a haughty message to Rome, demanding that they receive Tarquin again as king, and threatening to compel them by force of arms if they refused. To this demand the Romans answered with scorn, and prepared themselves to fight. They chose the consul Aulus as dictator, and put their army in marching order with so much speed, that on the third day the host set out to meet the Latins, whose army was encamped not far from Lake Regillus.

The Romans also encamped on the borders of the lake, and early on the following day the fight was begun. The bravest of the knights and warriors of Rome were set against the boldest and most renowned heroes in all Italy beside, and in all the history of Rome was there no battle more desperate or more bloody. There were a great number of the most mighty champions slain on both sides, but on the whole the advantage was more and more markedly with the enemy, and the Roman cause became ever more doubtful. In the center where Aulus, the dictator, led, the fighting was most desperate, and the Latins were gaining a decided advantage, even though Herminius was summoned to aid. Mamilius and Titus, the youngest Tarquin, fought here, and the ground was heaped with the bodies of dead heroes. Mamilius slew Herminius, and in his turn was slain by Aulus, but the Romans were giving way before the onslaught of the Tuscan troops.

In this extremity, Aulus vowed a temple to

Castor and Pollux* if he might but win the battle, and hardly had he done so before he became aware of a pair of noble warriors who rode at his right hand. Their horses and their armor were as white as snow, and about them gleamed an unearthly radiance. Before the might of their swords no foe might stand, and instantly the tide of battle turned in favor of the Roman army. By their powerful aid the Latins were put to rout and defeated with a terrible and overwhelming slaughter.

At Rome the tidings of the fight were awaited with the greatest anxiety, and just as the sun was setting, a princely and godlike pair of horsemen, their white armor splashed from head to foot with blood, rode swiftly into the city. They brought news of the victory, and told of the battle; then with slow and majestic mien they rode to the well which sprang from the earth in the Forum near the shrine of Vesta†. Here they washed away the stains of the conflict, and riding to the door of Vesta's temple they vanished in the twinkling of an eye.

Then it was known to all that the gods had fought for Rome, and that the stranger horsemen were none other than Castor and Pollux, the Great Twin Brethren. Hard by the temple of Vesta a temple was erected in their honor, and on the ides of Quintilis‡ the anniversary of the battle was each year observed with great solemnity.

III.

VIRGINIA.

A Lay Sung in the Year of the City CCLXXXII.

The story of Virginia is one of the most touching of the whole legends. Virginia was a young and beautiful child who went day by

*The twin sons of Jupiter and Leda, brothers of Helen of Troy. They took part in the Argonautic expedition. There are numerous accounts of their death, but Jupiter rewarded their attachment for each other by placing them among the stars as the Gemini, or Twins. They were the patron deities of seamen and voyagers, and sometimes took part in battles, on which occasions they always appeared mounted on magnificent white chargers.

†The deity which presided over the home. A sacred fire was kept constantly burning in the temple in her honor and was tended by six virgin priestesses called Vestals.

‡The fifteenth of July. Quintilis was the name of the fifth month of the year. The Romans divided the months into three periods very unequal in length. The first day was called *kalends*, (or *calends*); the fifth and the thirteenth of all months save four, were known respectively as the *nones* and the *ides*. On the four excepted months, March, May, July, and October, the *nones* fell on the seventh, and the *ides* on the fifteenth day.

day to school in the Forum, and all the tradesmen on the way she went had learned to watch for the lovely and innocent creature, so sweet and winning was she. In an evil day the eye of Appius Claudius, the wicked and dissolute consul, fell upon the maiden as she tripped joyously homeward, and his base passions were inflamed to possess her. His arts and his proffers, however, were unavailing. Virginia was the daughter of honorable parents, and as pure and innocent herself as a dove. The advances of the consul, notwithstanding the fact that he had almost despotic power in Rome, were met with scorn and horror.

Only the more determined to secure his prey, and enraged at this resistance, Appius Claudius resorted to a stratagem at once cunning and outrageous. He induced one of his creatures, Marcus by name, to seize upon Virginia, upon the pretense that she was the child of a slave of his who had given the babe to the childless wife of Virginius, to pass off as her own. The occasion taken was during the absence of Virginius, the father of Virginia, who was with the army in camp. At first Appius Claudius refused to delay the trial of the claim of Marcus until Virginius should be sent for, but through fear of a tumult he at length consented to put off the hearing one day, supposing that it would not be possible for the father to be summoned in that time.

The friends of Virginius did succeed, however, in getting him to Rome in time, but as the cause was heard before Appius Claudius at whose instigation the seizure had been made, the trial was the most hollow mockery. The clearest proofs of the legitimacy of Virginia were brought forward, but in defiance of all these, Appius gave judgment for his creature Marcus.

Seeing that it was impossible to save his daughter alive from the hands of the wicked decemvir,* Virginius begged leave at least to take a last farewell of her. The privilege was granted, and while he clasped her in his arms, he saved her from servitude and dishonor by plunging into her heart a knife which he caught up from the shambles of a butcher near the place of trial in the Forum. Then with the reeking knife in his hands, he appealed to the people for vengeance and justice. The whole mass of the commons rose at his call, and the army, as soon as the story of Virginia's death was told in camp, joined in

*See "Outline History of Rome," p. 69.

the cry for redress and for changes in the government, which should render impossible such high-handed outrages on the part of the nobles. The Tribuneship, which had been abolished by Appius Claudius and his party, was restored, and the guilty decemvir himself was seized and imprisoned to answer for his criminal abuse of his power as judge. He died in prison and so escaped punishment, the supposition being that he took his own life.

IV.

THE PROPHECY OF CAPYS.

A Lay Sung in the Year of the City CCCCLXXIX.

[The Prophecy of Capys differs from the other 'lays' in not being founded upon tradition. The poet imagines a theme, and treats it as it might have been handled by a minstrel of the old Roman days, and although it does not follow traditional story it is founded upon it. After Romulus had slain the usurper Amulius and seated his grandfather Numitor again upon his throne, he determined to leave Alba and to found for himself a new city. The 'lay' represents this decision as being inspired by the gods, speaking through Capys.]

When Romulus had slain Amulius, his uncle, and the High Priest Camers, who had condemned his mother to a living burial and himself and his brother Remus to the Tiber, he marched from Alba Longa to the hall of his grandfather Numitor, to bring him again to his ancient right. On his sword he bore the bloody head of the king, while at his left hand strode Remus with the head of Camers held high upon a boar-spear. Around them was a joyous multitude of comrades and of people from all the hamlets round about, shouting with joy to see the sons of Rhea triumphant.

At the gate of the hall of Numitor sat the blind seer Capys, and as Romulus came near he trembled from head to feet with the inspiration of prophecy that came upon him. With his white hair rising and his sightless eyes flashing, he hailed him as the foster son of a wondrous nurse and the son of a god and in glowing words he went on to foretell his

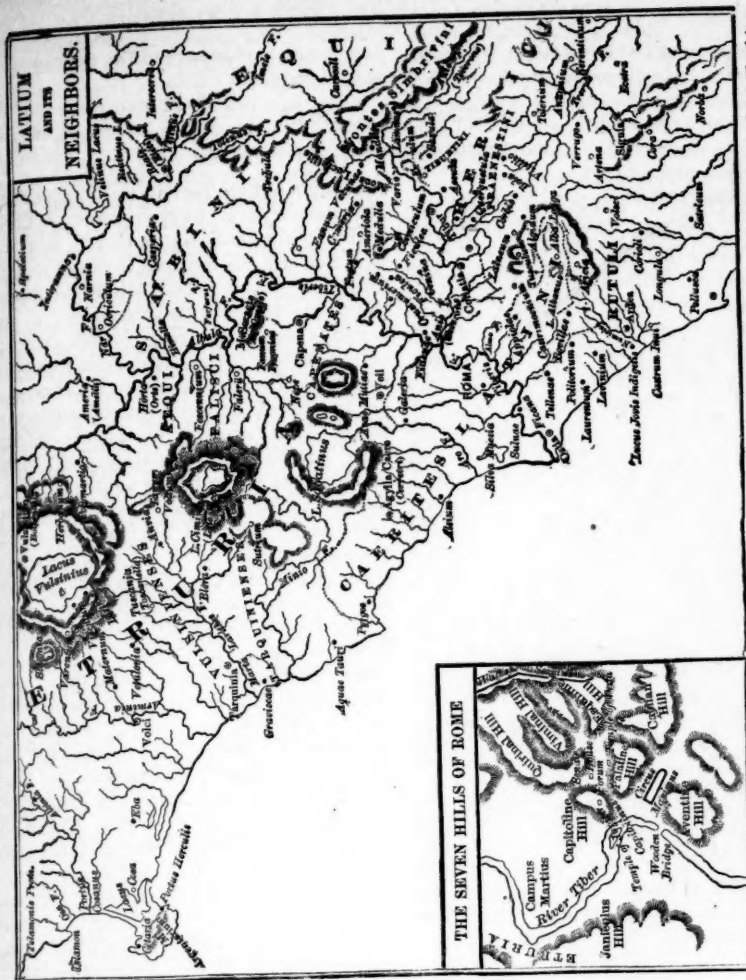
glory and the fortunes of the city which he should found.

After the triumphs of Rome over the Volscians, the Capuans, the Lucumoes, the Samnites, and the Gauls have been foretold, the words of Capys come to that great triumph over the Greek which was the occasion of the festival upon which this lay is supposed to have been sung, and which marked the beginning of the supremacy of Rome. Seven years before this, Lucius Posthumius Megellus had been sent from Rome to Tarentum to demand redress for great and arbitrary grievances. Posthumius was one of the noblest of Roman houses and had been thrice consul, yet in spite of his dignity he was treated by the Tarentines with the most outrageous rudeness and insult. His address was greeted with shouts of derision at his broken Greek, and as he left the stage from which he had fairly been hooted, notwithstanding the fact that his character of ambassador should have protected him, a drunken buffoon bespattered his senatorial robe with filth. The sight was greeted by the Tarentines with shrieks of laughter, and with tumultuous applause. "Men of Tarentum," said Posthumius, "it will take much blood to wash this robe." In consequence of this, Rome declared war against Greece. Greece called upon her allies, and among them came to her aid Pyrrhus, king of Epirus, with the first elephants that had been seen in Italy, 'moving mountains with snakes for hands.' The Tarentines and their allies were at first victorious, but soon the Romans under Manius Curius Dentatus made head against the invaders, and in a great battle fought near Beneventum put them utterly to rout.

This turned the tide in ancient history, and the prophetic fervor of Capys vents itself in glowing exultation over this victory, which was in truth the decisive point in the fortunes of the empire which he was by his inspired words inciting Romulus to found. The song ends with a brief but glowing picture of the splendor of Rome as it should be in its glory, long after the founder and the prophet should both be dust as is now the Rome of which the poet sung.

MAP QUIZ.

1. The course of what river would the Sabines follow, and what one would they cross in going to Rome?
2. In which direction from the Tarpeian Rock was the bridge which Horatius held?
3. Lake Regillus lay a few miles S. E. of Collatia, in which direction did the Romans march to reach its battle-field?
4. Against what enemy were the fortifications of the Janiculus Hill intended to protect?
5. Locate the city from which the Tarquinian family came to Rome?
6. Locate Rome's rival Veii and its colonies Fidene and Capena.
7. Between what two great towns hostile to Rome lay Sutrium the friend of Rome?
8. Six of the twelve towns which formed the Etruscan confederacy are on the map, locate them.
9. What member of this confederacy lay northwest of *Lacus Fidivinus* and what is it now called?
10. Could a traveler from Rome reach Vulturnum by water?
11. What river gave Tarquinii a water-course to the sea?
12. Locate the temple of the goddess Feronia.
13. The Etruscan confederacy held its general council at the temple of the goddess Voltumnus, in which direction did representatives travel to reach there, from Veii? from Caere? from Tarquinii?
14. What distance from Rome was its mother city and what advantages of location had it?
15. Where is the town situated from which Marcius received the surname Coriolanus?
16. What river forms a beautiful water-fall at Tibur (now Tivoli) sixteen miles from Rome?
17. What was the chief town of the floor pavement called *opus Signinum* (Signia work) was made.
18. Locate the town at which the floor pavement called *opus Signinum* (Signia work) was made.
19. How was Tuscium strongly fortified by nature?
20. What geological phenomenon explains the fact that Ostia, the former harbor of Rome, is now nearly three miles inland?



21. What are the natural advantages of the site of Rome?
22. By what name was the Tiber originally called?
23. What tributary of the Tiber flowed across the northern boundary of the country of the Sabines?

24. What mountains separated the country of the *Aequi* from that of the *Hernici*?
25. What river drained the southern portion of the country of the *Hernici*?

SUNDAY READINGS.

SELECTED BY BISHOP VINCENT.

[October 6.]

THE Christian conception of man and the world does not afford any specific criterion for the division of wealth. Man is endowed with moral freedom and the world is a scene of moral discipline. It is an order in which hope and fear, gain and loss, success and failure, must ever be possible, for they are essential to its purpose. Christ's prayer for his disciples was not that they might be taken out of the world, or that the world might be transformed to give them peace or comfort, but that they might be kept from the evil. (It is not what we have, but what we are, that makes life sweet and blessed.) Wealth is not simply to gratify but to unfold our natures. Its ministry of sensations passes away, but its ministry of discipline is everlasting. "The true secret of happiness," says Canon Westcott,* "is not to escape toil and affliction, but to meet them with the faith that through them the destiny of man is fulfilled, that through them we can even now reflect the image of our Lord and be transformed into His likeness."

"The poor," said Jesus, "always ye have with you." I cannot see that it will ever be otherwise. It is proof that Christ entertained no dream of social equality. If all were equalized to-day, there would be the poor, if not the rich, to-morrow. The virtue of beneficence will never be outgrown upon the earth. The incapable, the unfortunate, the sick, to say nothing of the idle and the improvident, will ever sit by the wayside, waiting for the coming of the Good Samaritan. For the Christian the problem of wealth's distribution is largely one of judicious beneficence, for the world has learned that there is beneficence that is injudicious and even injurious. An indiscriminating charity has fostered mendicancy and pauperism and there are countries of Europe where no church is without its waiting beggar. William Law,†

the author of the "Serious Call," gave a literal interpretation to the words of Christ, "Give to him that asketh thee," and with two rich friends resolved to deny himself as much as possible and supply the needs of every applicant. They attracted a great crowd of idle and lying mendicants to the neighborhood, till finally the community had to petition the magistrates to interfere, in order to prevent the utter demoralization of the parish. But suppose we should interpret with similar literalness the saying, "If any man come to me and hate not his father, and mother, and wife, and children, and brethren, and sisters, yea, and his own life also, he cannot be my disciple." A slow beast needs sharp goads, and Christ stirs and startles the conscience by such awakening words, not as giving laws of action but spurs to reflection. Some counselors, like Herbert Spencer,* advise us to follow our own self-interest, without concern for others, with the assurance that all will thus be happier, because more independent. Between the misdirected almsgiving of the purely sympathetic and the indifference of the selfish, lies the narrow way of wisdom, walking in which, Christ says, "Whenever ye will ye may do them good." We are sometimes told that we ought never to give directly, but only through organizations. This counsel overlooks the blessing of personal ministration. The Good Samaritan took a personal pleasure in relieving misfortune. We need the contact with suffering and the lessons of patience and faith which it often teaches. Besides, it is sometimes the gift of ourselves, rather than of our money, it is our counsel, our sympathy, our word of cheer, that would make glad the heart and infuse strength. I have no word of criticism for the noble work of organized charity, but there is much that it cannot do, because it

Among those who sought Law as a spiritual adviser were John and Charles Wesley. In connection with Mrs. Hutcheson he endowed a school for the instruction of boys and girls, which still exists under the name of Law's and Hutcheson's Charities.

* (1820—.) An eminent English philosopher and author. He regards evolution as "the basis of any system of philosophy which represents and conforms to the general method of nature."

* Brooke Foss. (1835—.) An English clergyman distinguished as a Biblical critic. He was made canon of Peterborough Cathedral in 1869.

† (1686-1761.) An English mystic. Dr. Johnson says his own first serious thoughts on religion were awakened, by reading "Serious Call to a Devout and Holy Life."

lacks the human personality which in God's order, both for the recipient and bestower, should be present in every ministration. And, as a rule, the best gift is the one that has most of personality in it. All true strength radiates outward from the center. A weak heart or a weak mind needs a strong one. Encouragement, advice, knowledge, a place to work in, a nobler work to do, are better gifts than food and clothing; for they produce these and confer the power that continues to produce them. The best form of beneficence that the world has discovered is helping others to help themselves.

[October 13.]

The laborer has the right to the fruit of his labor; and the whole fruit of it, after he has satisfied the like rights of others. This is his right, if there be any ethical foundation of society or any moral nature in man. But there is another aspect of this problem of the rights of the laborer. All that he is and all the natural agents which he employs are bestowments of a higher Power. While no man may interfere with his use of his powers and the fruits of his toil expended upon the materials and forces of nature, there is a claim that underlies all—the claim of the Creator. Christ has presented this neglected aspect of the problem in His parable of the talents. Behind this fortification of rights in which the producer of wealth intrenches himself and protects himself from all invasion of rights, is that citadel of duty which gives security to them all. It is into this that the defender of his rights must at last retire when pressed by his enemies. He says: "I have duties to perform to my family, to my friends. If you take away my rights, I cannot perform my duties. I am bound to realize manhood, and my rights must be accorded that I may perform my duties." This is the Christian solution of the origin of rights. It says to the laborer: This is your land, for you have cleared its swamps and blasted out its rocks and made it golden with a harvest; this is your grain, for you have dropped the dry seeds into the moist earth at spring-time and have harvested and winnowed and garnered it; this is your gold, for you have burrowed into the mountains for it and washed away the sand from it until it glitters in your hand; but remember, there is upon it all a claim that you must recognize—the claim of Him who fashioned the mountains and hollowed

out the valleys and buried the bright nuggets deep in the rocks for you to gather; the claim of a Father who has placed you among brethren who are like yourself, equal in moral dignity to yourself, if not in powers or possessions, to whom also He has given rights, and whose burdened backs and wearied hands you cannot, as a man and a brother, cause to toil and ache, to heap up your treasures or feed your pride. Christianity, respecting and defending every right of man because he is man, with one hand holds the shield of a protecting goddess over the rights of property, and with the other uplifts the sword of justice against the robber and the oppressor. The right of property is simply the right of a steward to discharge his trust without interference. But "it is required in stewards that a man be found faithful."

The increase of wealth is attended with great perils, yet Christianity favors and aids that increase. All the sages and philosophers of antiquity dreaded the day when the simplicity of poverty should give place to the luxury of wealth. They had good reason for this fear, for no pagan nation has ever grown rich without the deterioration of its people. A prophetic psalm of ancient Israel expresses a wish which no pagan sage had dared to utter, but only in view of a condition that renders riches safe. "God be merciful unto us, and bless us, and cause His face to shine upon us, that Thy ways may be known upon the earth, Thy saving health among all nations. . . . Then shall the earth yield her increase; and God, even our own God, shall bless us."

[October 20.]

Christianity is happily not dependent upon the agency of the secular school for its extension. It is probably well for the development of our national life that the schools are beyond ecclesiastical control. The distinctively clerical influence is conservative, rather than progressive, regarding moral well-being, rather than intellectual advancement. Such, at least, is the testimony of history. And yet it is possible for the secularization of the school to go too far. The state is assuming a wholly new position in excluding religious influences from the school-room. Why not let them enjoy the same freedom that other influences do? Political sectarianism would doubtless be as obnoxious to partisans as religious sectarianism can be to any, yet we

hear the claim constantly pressed that political science shall be taught in our schools. To exclude on the ground of religion a book or an influence or an exercise from a school seems to me beyond the scope of the state's proper authority. It is persecution of religion *because it is religion*.

The Christian men of this nation will be very weak indeed if they do not insist that the Christian Scriptures and Christian teachers be everywhere accorded the privilege of exposition and utterance. Christian duty binds every disciple of Christ to let the light within him shine upon all around him, most of all upon those whose unshaped lives are submitted to his molding hand. No Christian can desire that our public schools shall be converted into propagandas of a sectarian or dogmatic type. But it may be fairly asked that the influence of Jesus might have its place among the shaping forces; that the young might be taught the fatherhood of God and the brotherhood of men; that veracity, reverence, justice, and charity might be inculcated; that the conceit of the young might be tempered with some respect for the wisdom and goodness of the world's great men, including those mentioned in the Bible; that the arithmetical consciousness which intensifies the selfishness of our age might be touched with some consideration for the rights of others; that the perception of present interests might be accompanied with some realization of permanent and spiritual needs; that rights and duties might be explained in the light of a personal authority that would give them force in a child's mind; that the religious sentiments might find exercise in some simple and elementary but purely voluntary form of worship that would at least preserve the rudimentary instincts with which men are naturally endowed. Religion within such limits may have place in our public schools without violating any principle of our American conception of the state. The rights of the small number of imported atheists, agnostics, and positivists who would oppose such a plan need not be seriously affected. Their offspring might be marked with a designating badge and kept carefully away from all such influence. Upon such a program Christians of every name might easily unite; and how, in such an atmosphere, would prejudice and sectarianism soften and dissolve, a general fellowship in high objects of faith drawing the coming generations together in the sense

of a common brotherhood, leaving free for each the ever diminishing differences of personal opinion, while preserving "the unity of the spirit in the bond of peace!"

[October 27.]

We have now examined the relation of Christianity to the leading problems of society. We have found everywhere Christ's conception of man throwing light upon these problems. If the laborer has rights, it is because he is endowed with personality. If the distribution of wealth is possible upon other grounds than the rule of the strongest, it is because these personal rights radiate outward from the man and project themselves in the sphere of poverty. If marriage and the family are to be preserved to society, it is through the recognition of personal rights in the domestic circle. If education is to receive its perfection in the complete unfolding of human powers, the spiritual and moral nature of man must be regarded. If legislation is to embody justice and realize liberty, it must postulate the doctrine of personal freedom and of rights and duties as the ground of freedom. Finally, if crime is to be repressed and extirpated, the moral regeneration of men must be accepted as possible and the universal reign of mechanical necessity must be denied.

The relation of Christianity to these problems is briefly this: it carries the master-key that unlocks every one of them; that master-key is Christ's conception of man. I bring the question to this issue: let what Christ has taught of man's nature and destiny be denied; let the mind picture society as an organism whose constituents are impersonal automata, mechanical products of matter and its forces, infinitely complex, but still governed by the law of physical fatality; let the fact of personality be rejected and the reality of inherent rights be contradicted; and I affirm that, when men universally believe this, social order will have no existence, the physically weaker will go down in the struggle for life under the remorseless competition of the stronger, and the human race will be plunged into a general pandemonium. Every disruption of social order that has lately startled the fears of men has originated from some phase of this chain of assumptions. On the other hand, let all that Christ has taught be admitted: let it be assumed that each personal being is endowed with inherent rights and immortal life; let it be conceded that the human brother-

hood is linked together under the laws of a moral order and the providence of a beneficent Father, and an ideal state will be realized among men. In the light of that contrast, I venture the assertion that, if ever an ideal order is realized by humanity, it will be under the leadership of the Christian conception of man and will require that for its basis. The current agitation of mind over social questions is the best token that the heart and consciences of men are stirred as they never have been stirred before; and it requires little insight to discover that the postulates underlying the discussion of social problems and the hopes of social amelioration are derived from the teachings of Christ, however illogical and grotesque some of their applications may seem to be. *Christus Redemptor* has, with atoning sacrifice, brought forgiveness of sin to the great company of the redeemed. *Christus Consolator* has stanchd the tears of the world's sorrow and filled the hearts of the

afflicted and the wronged with immortal hope. *Christus Consummator* will establish the kingdom of God in the hearts of men and transform human society at last into an order of final perfection. And you of this noble School of the Prophets, soon to go forth as heralds of that coming kingdom, have a work more vital to the progress of social regeneration than that of any economist or jurist or social reformer of your time. Your part may seem humble and your reward not very great, but it will not be so in the final estimate of eternal values, "for all things are yours, . . . whether the world, or life, or death, or things present, or things to come; all are yours; and ye are Christ's; and Christ is God's."

David J. Hill, LL. D.*

*President of the Rochester University which was established in 1850 by the Baptists. These selections are made from his article, "The Social Influences of Christianity," found in the volume of the "Newton Lectures for 1887."

THE STUDY OF THE SEASONS.

BY PROFESSOR N. S. SHALER.

Of Harvard University.

THE science of geography is not well presented in the text-books on that subject; in general these works set before the reader numerous details concerning the political divisions of our states, along with an account as to the commercial and industrial resources of the different peoples. They fail in most cases to provide the student with any sufficient knowledge as to the nature of geographical influences. They fail to show him the unity of the various natural causes which serve to bring about the existing condition of land and sea and the influences resulting from climatal peculiarities or the organic life of the earth. The imperfection in the system of these works arises from the history of geographic science. In the earlier states of human knowledge, political divisions and questions of commerce were the first geographic matters which interested men. The bounds of empire or the paths of trade were evidently facts of great economic and historic importance. Therefore they were the first subjects for presentation in geographic works. Gradually with the advance of science, physiography, which considers the effects on

climate and consequently on man as well as our other organic forms, became subject to inquiry. Something of this matter now finds a place in all of our geographies, nevertheless it commonly appears as of secondary importance, the main aim of the works being still to impress on the pupil's mind the features which have immediate reference to the immediate interests of man.

Through the modern advance of science there has grown up a vast body of knowledge concerning the history and mode of action of the part of the earth and that part of the universe which affect the history of our sphere, to which we give the general name of Physiography. This science considers in a broad way the machinery of the earth, the history of its growth, and the effect of the successive changes which have taken place in the progress of our earth's development on the life which has long occupied its surface. As yet the name applied to this science is somewhat ill-defined and it is therefore free to each writer on the subject to set forth the limits which he will include in the study of physiographic science. We shall see that it

will be necessary to include in this generalized study of nature, parts of many other sciences. Geology, geography, astronomy, chemistry, physics, biology, all afford general facts of great value to the student who seeks to make his physiographic studies present him with a broad view as to the nature and history of our sphere.

In order to find an easy way into this wide field, it is best to begin our task by bringing clearly to mind by means of simple familiar instances the effect of the conditions which surround our plants and animals of all grades, effects which we commonly sum up under the term climatal conditions. If the reader will but remember the difference which diverse seasons bring to his ordinary life, he will have before him one of the most conspicuous features as to the effect of varying climates. In the middle latitudes of the earth the change from winter to summer carries men through the widest range of climates within a period of a single year. In the snow-bound, ice-locked period of winter, the greater part of the organic life disappears from the scene. The annual plants survive only in seeds which await the coming of the spring-time to enter again on the living state. The permanent plants are sapless, locked in a state of sleep. The insects survive in their eggs or in underground stations. Of the hundred species of birds more or less familiar in the summer season perhaps half a dozen remain in the fields, the rest have followed the warmth to more southern climes.

If he watch the coming spring he will perceive with the increase of the heat this life start again into activity. The seeds germinate, the eggs of the insects pour forth their tide of life, the birds sweep up from the tropics, and with the change of temperature which does not usually amount to more than 30° F., the whole aspect of the world about us undergoes a marvelous change. This alteration is sensible to us not only in the outer nature but in our spirit as well. We are not the same in the different seasons of the year; the whole conduct of our life is affected by slight changes of climate; in part, directly by the excess of warmth or cold, in part, remotely by the change in the face of nature and in the occupations of the mind which different seasons bring about.*

* Very few persons find the measure of profit and pleasure which should come to them from close attention to these ever varying conditions of the climates in which

All set gain from the study of nature must come not through the contemplation of general facts but through the study of details. It is true that many persons have in their youth a certain delight in the face of nature. They feel intellectually and spiritually moved by the contemplation of a sunset or by the beauty which belongs to the vernal fields. This impression, however, is but vague, and if we trust to it alone we shall find that as the cares of life increase, the joy in nature diminishes. It is a sad fact that while most persons are keenly aware to the beauties of nature in their youth, they gradually go apart from such pleasure, and by middle age view the world in a commonplace way, finding but small delight in all the marvelous work of nature. To keep this original interest in the world about us active, it is necessary to devote a portion of our time to close sympathetic observation on the successions which are visible in the seasonal processes of life. I would have the student very early in his observation of nature select some group of organic beings with which he would make himself most familiar and which he will follow from year to year with ever increasing pleasure. There are three groups in the biological field, any one of which will serve to give the thread on which the observer is to bring the jewels which he will gather in his study of the yearly round of life. These are the birds, the insects, and the plants.

Of these three assemblages of life, the flowering plants are the most suitable companions for our seasonal studies. They may grow anywhere; even on the window seats of city windows, they will go through their marvelous course from seed to flower and again to seed almost as well as in their native fields. However town-bound, the student can generally find his way to the country or at least to neighborhoods sufficiently rural to show him these plants in their natural conditions.

they dwell. Men and women naturally become absorbed in household cares or in the varied affairs of social or business life. They neglect this majestic march of the seasons and thus lose what should be the greatest charm of life. The student who would become in the best sense a naturalist, who would feel the work of nature about him, should begin at the outset of his striving for this larger life, to go forward each year with the great procession of beings which lead from the darkness of winter through the morning of spring, and noonday of hot summer to the even of autumn, and back again to the winter of sleep. The student of the seasons is always in the tide of life, in a great river which bears him on and gives him not only a purity of spirit but the sight of ever widening fields.—N. S. S.

Within the ordinary range of a student's walks, he is likely to find from two hundred to four hundred species of flowering plants with which he can readily make himself acquainted. In seeking this introduction to plant life, the student will do well at once to begin the preparation of a small herbarium.* With the convenient manuals of botanic art and science, such as Gray's "How Plants Grow," and his "Manual of the Flora of the United States," will enable any one with a few days of study to learn the art of classifying these plants. This work of classification is not indeed necessary to the study of plant life, but it adds much to the store of knowledge and the names make it convenient to deal with each species and gather information concerning it.

As soon as the student begins to collect specimens of the flowering plants, which he should do with the first peep of spring, for in sheltered places certain early plants blossom much sooner than is commonly supposed, he will find that he is helped forward in his studies by the love of collection which is native in every breast. A few weeks, distributed through the flowering time, will put him in possession of specimens showing all the ordinary species of the district. Afterward he ceases to be a mere amasser of familiar things, but comes to seek out the rarities. It is important at this stage of the work to take care that the pleasure of collecting does not become the ruling passion of the mind. There is always a risk, especially with the beginner, that the joy of possession will divert the mind from the more serious and in the end more agreeable part of his task. To avoid the mere miserly motive the student should take the following precautions: each specimen he gathers should be a choice sample of the species which he would represent. It should when possible show the roots, the stem, the flowers, and the general form, or as it is termed the *habitus* of the plant, in what seems to him to be on careful inspection a natural and normal manner. His principal specimen should be further illustrated by other forms showing pecu-

liarities which are not exhibited by the choicest plant. Different stages of the flower, the seed, even the winter aspect of the dead stem may well find a place in the collection. With each collection of dried plants representing the species, there should go a set of notes stating the day on which the plants were collected and the position as regards peculiarities of soil. From time to time these notes can be added to the results of other observations as to the time of flowering at different periods of the year, peculiarities of association with other plants, appearances in new stations, etc.

In the course of two years of such observation not more than thirty days' time being given in each year, it will be possible for a student to acquire a familiarity with the flowering plants in the region within the limits of ten square miles. The spare hours in the winter season may be devoted to the care and study of the collections which have been brought together. A glance over the sheets will refresh the student in the darkest winter days and make him eager to renew the field pleasures which the contemplation of his treasure brings keenly to mind.

Even before the student has obtained such a knowledge of the flowering plants about him as two seasons of collecting, together with his spare house hours, will afford, he will be ready to begin certain more extended studies which will lead him nearer to the true task of the naturalist, mainly to the study of the physiography exhibited in the fields just about him and the world of to-day. The notes of his field observations as well as his memory of the facts he has observed, will afford a basis for considering the effect of the varied climatal conditions which occur in the field whence his plants are derived. He will perceive that each peculiar station, each bit of bog, of arid hill-top, or shaded dell, has its peculiar assemblage of plants. Some few forms range through a great variety of physical or plantal conditions, but on the whole, each variation in station is accompanied by a wide difference in the character of the life. Before he enters on an unexplored glen or treads upon the open spaces of a rocky summit, he will know what plants to expect. Almost without reflection he will thus have found his way to the fundamental principle which determines the most important features of the earth's life, viz., that this life whether animal or plant is exceedingly affected by the

* A tin box, in which the plants are to be preserved during the hours of collection; a few sheets of coarse, soft brown paper between which the spread out roots, stems, leaves, and specimens may be placed; a few layers of blotting paper to place between the sheets which infold the specimens; two flat boards and a heavy stone for a press, together with a little contrivance will enable the student to begin his work as a botanist.

character of the conditions which surround it.

As soon as the student has by habitual observation come to recognize the effect of conditions which surround animal life in different places, he will secure a firm hold on the fundamental truth of physiographic science, and he has but to enlarge his conceptions in an easy way to conceive how the continually different climate of the tropics gives the singular aspect to the life in that field, and how the peculiar climatal conditions within the polar circles likewise have affected for vast periods the creatures of those realms. Therefore in order to make this important idea thoroughly clear to his mind the student will do well to become perfectly familiar with the area in which his field of study lies. He should practice himself in making a sketch map of it. His world of ten square miles is a picture in a small way of the great world which no man has ever been able sufficiently to see, but must picture in his imagination on the basis of such reality as he may acquire from the study of its smallest part.

I would not have the student long limit his studies of the life in the world about him to plants. Fascinating as are these creatures of the soil, they are not in the fullest sense living. No naturalist should be satisfied with an acquaintance with plants alone. He should go higher in the scale of beings and take account of the animals which directly or indirectly depend upon the vegetable world for their sustenance. After two or three days of close attention to the plant life and even while the student is concerning himself mainly with these simpler creatures, he should begin to observe the insects, these lower forms of life, rather than the birds and other vertebrates because they come nearer to hand and are more constantly before our eyes.

The insect world is far too varied and its species are too numerous for any but men who devote themselves entirely to entomology to become familiar with them. It is well, however, to select a few forms which are in a general way illustrative of insect life. Of these our commoner beetles, the group of web-winged insects, including the bees and ants and certain of the more conspicuous moths and butterflies, are well suited to serve the purpose. In beginning the study of these insects the simplest way to proceed is to take certain insects which are manifestly injurious

to vegetation. In his study of plants, the young observer will have had numerous chances to notice how many insects prey upon plant life. Taking any of our larger caterpillars at the time when they have ceased to feed, it is generally easy to watch them folding themselves in their cocoons, and when they have spun, they may be removed to the house, kept in a dry, cool place through the winter, and watched at the time of their emergence in the spring. Bred in captivity, they may be observed in the process of laying their eggs, the young may be seen to hatch from them, and in this way the cycle of the insect's life is traced. All of our common insects are adjusted to the varying conditions of the year.

After having acquired a personal knowledge of a few common butterflies, the student may turn his attention to the more interesting insects such as our bees and ants which have the habit of dwelling in communities. These animal associations are among the most attractive features in the world of life; they too are closely adjusted to the phenomena of climate. The ant-hill or the bee-hive is quickly responsive to the seasonal changes and affords a delightful field in which to study that adaptation of organic forms to environment, which it should be the first object of the observer to comprehend.

After some acquaintance has been gained with the lower order of life in the insect world, the student will do well to turn his attention to the creatures which are more closely akin to ourselves, the common vertebrates of our woods and fields. The habits of reptiles are not easily observed; all of these creatures are secretive in their ways of life. It is well to note that the whole of these cold blooded animals disappear from the surface of the earth as soon as the winter frosts begin and reappear in the spring-time. They find hiding-places in the mud of swamps, in hollow places beneath the ground, and other sites where they may escape the change which winter brings. Their warm-blooded kindred, the small mammals, the squirrels, mice, woodchucks, etc., in part seek shelter from the winter in a long sleep in protected places and in part maintain their activities. The greater part of our birds, with the coming of winter, move away to warm climates.

In his effort to find his way into the tide of life which flows with the seasonal changes over the surface of the earth, the student

should take care to limit his observations at first at least to a few forms. The greatest difficulty which besets the path of the young naturalist is found in the amazing variety and complication of animate nature. If he does not carefully choose what he will observe, he will perceive nothing clearly. After he has followed the life of our flowering plants and a few of our animals through the changes of the year, when with each spring-time he notes the appearance of a few species of animals and plants in a swift and clear manner, then he can begin to extend his

knowledge over a wider field. For the purpose he has in view, clearness of perception and fullness of knowledge are far more important than variety of acquisition. His aim is not to compass the variety of nature about him but to feel the influence of physiographic conditions on his life in order that he may thereby attain to a larger knowledge as to the effect of climate, soil, and other physical conditions on the development of the earth's features, particularly on the progression of organic forms from their lowest estate in the remote past to their present lofty station.

CHILD LABOR AND SOME OF ITS RESULTS.

BY HELEN CAMPBELL.

"THERE isn't any such thing left as Child Labor," said, within a few weeks, a disdainful and impatient little woman, deep in organized charities and missions, and convinced that institutions could and should do all that is necessary for the waifs and strays who still wait admittance. "Why people will talk about such things when there is a Compulsory Education Act and all the children have to go to school, I don't see."

"You are speaking seriously?"

"Seriously! I should think so! I regard it as very damaging to our charities, for when people who are just agitators, make this outcry about it, people say, 'Why I thought your Home for this or that attended to children,' and then they don't want to give us so much. But the agitation is the very purest humbug."

These words are chosen as text for such comment as may follow, simply because they voice the feeling and conviction of many who, having read of Factory Legislation and the Compulsory Education Act, believe that with their passage all difficulties ended, and that if certain infelicities still wait upon the Labor Question as a whole, Child Labor has no share in them.

Precisely why faith in this millennial condition of things is so strong, it would be hard to say, but strong it is, and undismayed by any attempts to show the real instability of its foundations. Such believers can only be referred to the Reports of the State Bureaus of Labor interested in showing as favorable a set of returns as possible, but the figures

telling their own story. These Reports have thrown much light into corners unexpectedly dark, and made it imperative, not only to recast opinion, but to ask if legislative enactment, and evasion of most of the provisions in that enactment, must go always side by side.

It is a purely modern evil with which we have to deal; a story which began practically with the century, and whose progress legislation has had no power to check, simply because it is an integral part of the competitive system of production, its relations to it being shown further on.

Why and how Child Labor has assumed such proportions is the first question, and why legislative enactment has failed to grapple with and overcome the difficulties involved, follows naturally. The story for England precedes ours and gives the key to some of our own problems. It holds the main features as developed in Anglo-Saxon hands, and leads naturally, in this outline, as our own evils are in many points the direct reproduction of those faced by the English Commission of 1840. Its beginning, as has already been said, is with the introduction of machinery.

A little period of time demonstrated that a child could manage looms where iron and steel did the work of the human hand, and the fathers who saw here a source of gain undreamed of before, hastened to offer up the little ones to this new Moloch, whose character was as yet quite unsuspected and from whose hands fell the shower of weekly shillings and sixpences that were to better all

conditions and bring ease and something like wealth to every one.

Then came the hideous system by which thousands of children were farmed out, being lodged in overcrowded, inexpressibly filthy houses and fed in droves like so many pigs. Ragged, dirty, foul, unmothered, these masses of hardly more than baby humanity, toiled from ten to sixteen hours a day, till merciful epidemics swept them away, in hundreds, and England, roused by fear of possible disaster for her regarded class, and urged by the philanthropists whose souls had long been sickened with the knowledge of evils plain only to themselves, proceeded to investigate, and having investigated, to enact the Factory Act given in substance in the article in *THE CHAUTAUQUAN*, for May, on "The Child and the Community."

Amelioration in many points followed. But the partial application of any sound general principle, is often a very doubtful benefit, and in some cases may be regarded as a misfortune. The first effect of the Factory Act in England was to cause the immuring of more children in mines than were ever employed there before. Excluded from cotton mills, child labor in silk mills depreciated, and swarms of children were put to other occupations equally or more unfavorable to the development of the moral and physical faculties. The poorer districts of London held then thousands of children let out by their parents for from sixpence to a shilling a week, to do the work of a strong woman; the case of a child of seven killed by its employer, having called public attention to this form of oppression.

Then came a period of apathy, and another uprising, as it dawned upon the English mind that something was still wrong, in the mines if nowhere else. The evil had grown so insidiously and was so ignored that a formal Commission of Inquiry was needed before facts could be so massed as to produce any real effect on the public mind. There is hardly a more fearful record in existence, outside the Inquisition, than this enormous volume of over two thousand folio pages filled with the sworn testimony of the Commission's agents.

Naturally we regard it as impossible that such a state of things could exist a day upon American ground. We had profited by the experience of others and our children were protected by public opinion as well as by act-

ual enactment. In fact there was no such problem to deal with, nor did it come into existence while the uses of the product were the chief and exchange and profit a secondary consideration.

The change was a gradual and insidious one. That it has taken place at all, is often denied, and that it has any bearing upon our condition as a people no less so. Let us see what facts have to say in the matter.

When the Census of 1880 had been taken, it was found that 1,118,000 children were at work in factories, this number, for reasons given in full by General Walker, representing only a portion of those actually at work. In Rhode Island in 1875, before any formal steps toward inspection had been taken, it was found that there were employed for wages, one hundred forty-six children aged nine years, sixty-four aged eight, eight aged seven, five aged six, and three but five years old. Mr. James Connelly, Factory Inspector for New York State, reported in 1887: "Year after year we have seen the demand increase for smaller and smaller children until it became a veritable robbery of the cradle to supply them."

In 1880 the Commissioner of Labor for Ohio reported 48,593 children under fifteen years of age working for wages, and in 1886 he wrote: "The annual reports of the state superintendent of public instruction prove one thing conclusively, that under a depressed condition of trade, the school attendance rapidly decreases, and with every improvement in business comes an increase in the number of scholars. If, under favorable conditions, such as were experienced in 1880, nearly 80,000 children were engaged in gainful occupations, to what extent has child labor grown under the depressed conditions of trade of the last six years?"

In the New Jersey Report for 1886 may be read: "Over one half [of workingmen's families] would have been as badly off [i. e. in debt at the end of the year] if the wages of the head of the family had not been supplemented by those of other members of the family."

In Connecticut "the industries visited and employing children under sixteen years of age, consist of thirty-seven varieties. Out of a total of one hundred twenty-seven establishments, sixty-six employ children. . . . We dismissed 1,173 from work for being under thirteen years of age."

In Massachusetts in 1880, children between

the ages of ten and fifteen, constituted forty-four per cent of the whole number of working people, yet they produced but twenty-four per cent of the income. This being so, why should child labor be looked upon as a necessity? There are several answers to this question, the first being that with the present relation of wages to the cost of living, a working-man with a family must earn not less than \$600.00 a year. The majority of workmen fall decidedly below this. In a case cited in an admirable article on this subject written not long ago by Mrs. E. E. Brown, a father and son, a boy of twelve, worked together in the mills, their combined earnings amounting to \$564.00, of which \$132.00 was the wage of the child. Their items of expense, given willingly, were as follows:

Rent, \$78.00; Groceries, \$281.74; Meat, \$68.23; Fish, \$13.60; Milk, \$25.82; Boots and Shoes, \$14.70; Clothing, \$26.80; Dry Goods, \$18.00; Sundries, \$20.11. Total, \$539.00.

As the statistics of labor give the required expenditure of the average family of working people for food, at \$422.16, this alone stands as nearly the whole of the father's earnings, and without the child, debt would be inevitable.

This is one phase. Another is found in the fact that in the strain of always increasing competition, the first necessity is, to bring the cost of production to the lowest possible point. Boys and girls of fifteen and sixteen years of age can be hired for half the sum paid to men, and more applicants come in than can be supplied with work. Numbers of adult workmen are thus thrown out of work, and since they must have some means of subsistence, they say to the manufacturers, "If you cannot give us twice as much as you give these boys, we will work for a little less than we have done."

So a compromise is made. Part of the men are retained at lower wages and are comforted by the thought that their children's earnings will make up the deficiency. But as machinery improves, younger hands at still lower wages are employed, and reduction still goes on. "Without child labor, ten per cent of the laboring class with the present relation of wages to the cost of living, would be in a state of debt or pauperism; with child labor competition is constantly on the increase, and wages are still suffering reduction."

In the matter of general conditions of work, they are here and there admirable, but this is true only of the great corporations, a few of C-Oct.

which have built model villages, etc. For the vast remainder, is every grade of evil, all sanitary needs for most, being ignored absolutely. The pages in the Labor Reports bearing on these phases are heart-sickening. The mass of tenement-house labor not amenable to many of the regulations supposed to be in force is a series of evils as atrocious. Children of four sew on buttons ten and twelve hours daily, strip tobacco, and are helpers in many other ways, pulling out bastings, ripping, etc. The child is thus defrauded, not only of any natural childhood, but of health, of education, and of reasonable development. New York City has but one Factory Inspector; a score more would still find it impossible to cope with the conditions encountered; and what number would be required to actually rouse public sentiment and bring direct and efficient action, who shall say?

For the rooted sceptic I add a few other facts gathered at the time of a personal investigation in New York, the phase of Child Labor being an incidental one. They are taken from the notes of a physician, a woman who has long given attention to the subject and knows life in the tenement house and among the poor in general, as thoroughly as it well can be known. During the eighteen months prior to February 1, 1886, she found among the people with whom she came in contact, five hundred thirty-five children under twelve years old, most of them between ten and twelve, who either worked in shops or stores, or helped their mothers in some kind of work at home. Of these five hundred thirty-five children, but sixty were healthy. In one family a child at three years old had infantile paralysis, easily curable. The mother had no time to attend to it. At five years old the child was taught to sew buttons on trousers. She is now at thirteen years a hopeless cripple; but she finishes a dozen pair of trousers a day, and the family are thus twenty cents the richer. In another family she found twin girls four and a half years old sewing on buttons from six in the morning till ten at night; and near them was a family of three,—a woman who did the same work, and whose old father of eighty and little girl of six were her co-workers.

How does the Compulsory Education law work with these? It requires only fourteen weeks of the year, and the poorer class work from early morning till eight a. m., and after

school hours from four till late at night. What energy for study can be left under such conditions? Evasion is easy, for it always can be sworn that the child is over fourteen but small of its age. This has been done deliberately in some cases by thinking workmen, who deny that the common school alone, without manual training, can give the child what is required. But intelligent dissatisfaction is seldom the rule. It is the absorbing press of getting a living that compels Child Labor, and thus physical and moral degeneration, not only for this generation but for many to come.

It is with women chiefly that the future rests. It is women who, more and more, are searching out causes and seeking to discover what method may best alter certain social tendencies and evils. For this reason if no other, THE CHAUTAUQUAN gives place to the question, "What can be done to arouse a keener sense of what this form of labor really means, and what the result must be if it continues to increase at its present ratio?" The efficient persistency of women already has raised the age of consent and provided police matrons; and a united demand that Child Labor be abolished now and forever, would at least open eyes, and pave the way for the legislation that is sure to come in days when

we have grown wiser and realize the meaning of defrauded and outraged childhood. With every child in school, tenement-house labor becomes impossible, and women inspectors are no less a necessity if healthier methods are to begin.

At bottom it is one cause that rules. Every force in modern civilization seems bent toward the one end of money getting, and the child of days and the old man of years share the same passion and run the same mad race. Whatever words may come, no better ones occur as summary than those written of the same evil in the days when its consequences first defined themselves to the writer once for all: "It is this money-getting passion that has outgrown all bounds and that faces us to-day,—the modern Medusa, on which he who looks has no more heart of flesh and blood, but forever heart of stone insensible to any sorrow, unmoved by any cry of child or woman. It is with this shape that the battle must be, and no man has yet told us its issue. Nay, save here and there one who counts that battle is needed, or sees the shadow of the terror walking not only in darkness but before all men's eyes, who is there that has not chosen blindness and will not hear the voice that pleads, 'Let my people go free?'"

MENTAL PHILOSOPHY.

BY JOHN HABBERTON.

NUMBER ONE.

"**M**ENTAL Philosophy" is one of the most perverted expressions in the English language. Its original meaning is simple. The word "philosophy" is derived from two Greek words signifying love of wisdom; and the qualifying word "mental" means only that exercise of thought which shall strengthen and continue love of wisdom by human intelligence.

Not all mental effort is of the nature of philosophy—of love of wisdom. Minds just as active and acute as any that are entirely pure and honest have been persistent in the interests of personal selfishness, and antagonistic to everything true and right. They have been actuated not by love of wisdom, but by love of self. Among the robber-soldiers, the man-stealers, and voluptu-

aries of ancient Greece, there probably were minds as keen as those of Plato* and Aristotle,†—men who thought as clearly, and moved as rapidly from cause to effect as either of the great philosophers. The young Alexander‡ probably thought as intently of con-

*A Greek philosopher, one of the most illustrious of all time, who lived during the 4th century B. C. He was called Aristocles, after his grandfather, but was surnamed Plato (from the Greek word *platús* meaning broad), probably from the breadth of his forehead. He was a notable example of that universal culture which marked the period of highest development in ancient Greece.

†(384-322 B. C.) A famous Greek philosopher, a pupil of Plato. He is universally esteemed to have been one of the greatest thinkers of all ages. From his birth-place, Stagira, in Thrace, he was surnamed the Stagirite.

‡Surnamed the Great. (356-323 B. C.) The son of Philip of Macedon, and one of the greatest conquerors the world has ever seen. He was for some years a pupil of Aristotle.

quest and carnage as Plato about the immortality of the soul. This distinction between the different purposes of thinking must be recognized and understood by any one who in sincerity wishes to go into mental philosophy, no matter to how little extent.

It is true that any method of thinking may find some one to dignify it with the name of philosophy; but this is largely because no other word in common use comes so conveniently to tongue or pen. A very old recognition of this blunder is the Apostolic injunction to beware of "science, falsely so called." Philosophy—love of wisdom—impels a man to think rightly so far as his mental powers will allow, regardless of his own fancies and desires; false or counterfeit philosophy starts always with a purpose, perhaps entirely dishonest, brutal, or vile, for which the possessor needs or desires to form some plea or theory in support or excuse. The monopolist, the forger, the adulterer, the self-indulgent person of any kind, generally can offer an excuse which he has persuaded himself is sufficient, and this excuse is necessarily obtained by mental effort. Few wrong-doers are so lost to shame as to be willing to think badly of themselves; they may be entirely destitute of self-respect, and yet have a great deal of self-respect's great counterfeit, pride, which will not allow itself to be uncomfortable so long as the mind can provide it with salve in the form of a theory that shall serve as an excuse.

All philosophy depends upon reason, but not all reason is philosophy. The lawyer on the wrong side of a question, endeavoring to save a criminal from the consequences of his misdeeds, or to persuade a jury that the law does not really mean what it says, may reason with far more skill than his opponent on the right side, yet he is none the less wrong, and no reasoning that is wrong can be correct. There is not an indulgence or crime to which one may wish to descend, which has not been defended with great skill in print or conversation; the worst men are not the beetle-browed fellows sent to prison for common crimes, but the self-satisfied, intelligent persons of pleasing appearance and good manners, who infest society and are enabled by their reasoning powers to complacently commit every sin prohibited by the Decalogue.

Mental philosophy presupposes honest thinking for the sake of getting at the truth, for wisdom cannot be itself unless it be true.

The one requisite, without which all others must fail is, therefore, absolute honesty of purpose. Thought without this purpose may be intense, skillful, brilliant, and to many convincing, but its results are only theories which never are unanswerable. "Sophisms" is the word which best describes such results; it means quibbles, fallacies, or unsoundnesses of argument.

But not all sophisms come from wrong purpose. In philosophy, as in every other development of mental activity, the mistakes are as often due to ignorance or incapacity as to intention. A wrong start, no matter how honestly taken, cannot lead to a right end. A shipwrecked sailor in mid-ocean will never reach Europe, no matter how hard he rows or how skillfully he steers, if he keeps the bow of his boat toward the West. A person intending in all earnestness to reach Lake Erie by traveling southward should not start from Chautauqua. A man wishing to chronicle the highest aspirations of the human race would not seek his material among the frequenters of a rum shop or a gambling den. In like manner the philosopher will come to grief unless his starting-point and direction are both correct.

Hence the failures of many well-meaning thinkers. The shores of time are strewn thickly with the wrecks of philosophical systems upon which much honest thought and care were expended. Buddha,* according to history, was a pure and earnest soul who sought for the highest good; and he said much that resembles closely the moral injunctions of Jesus, yet Buddhism to-day is a faith without works. Buddha's mental activity lacked proper intelligence. Scores of less prominent yet earnest minds have thought earnestly, talked and written much, attracted many disciples, and then sunk, with their ideas, into oblivion. There has been scarcely a century of the history of the Christian Church in which there have not been profitless schisms, all on account of zeal unsupported by knowledge; even in the days of Paul, while persons who had

* A Hindu reformer, the founder of Buddhism. There is a great diversity of opinion regarding the time he lived, but recent writers have largely adopted the views of the Ceylonese Buddhists and fix the dates of his birth and death as 624-543. B. C. Other names by which he is known are Gautama and Sakya Muni. In its widest sense the name Buddha is applied to a series of Asiatic divinities who have appeared to save the world, Gautama being the latest of these incarnations.

seen Jesus still lived, there were earnest men who departed so radically from sound doctrine as to compel the apostle to write earnest warnings to the infant churches. Indeed, who can name a part of the Christian world to-day, in which men, apparently sincere, are not disturbing the peace and hindering the prosperity of the visible church by obtruding fancies or impressions which they have formulated as principles? Evidently knowledge as well as mental power and purpose is necessary to philosophy which shall deserve the name.

Philosophy is divided and sub-divided, according to its purpose, into many different sections: mental philosophy, aside from its general meaning, is a term applied to mental effort that is made to discover the powers of the mind; moral philosophy has to do with man's duties to himself and his species; and spiritual philosophy, called theology, deals with the relation between man and Divinity. Each, however, has one principle in common with all the others: the principle that each part of a system shall harmonize with all the others and occupy its proper place. No fancy, or series of fancies, or impressions, no matter how long and unselfishly a man may brood over them, should be dignified by the name of philosophy; were it otherwise each dreamer would be a philosopher, though dreams and philosophy have nothing in common.

The most common and pestilent perversion of philosophy, by individuals, is the elevation of a small part of a system to the prominence of the whole. In religion, morals, and abstract mentality there always are numerous alleged thinkers who persist in making everything tributary to a single idea. They resemble a French physician recently deceased, who recognized the curative properties of most medicines, but insisted that each, to be of active value, should be mixed with a large quantity of camphor. Mental, moral, and spiritual philosophy, social and political philosophy, and even natural philosophy, which probably is the most exact of sciences, are disturbed without being benefited by this species of agitator. It is a common weakness of minds more active than intelligent, to esteem highest that which has cost them most endeavor; they are like the Western squatter who, when he saw his house in flames, dashed through the door, not to save his wife and children, but a powder-horn upon which he

had rudely carved during hundreds of hours of his spare time. "The man with a hobby" belongs to this class, and while riding his hobby he seems to imagine that the sole duty of his fellowmen is to jump on behind him. To mention cases more to the point might be to tread upon the toes of some reader of this article, for nearly every earnest man has a hobby, which blinds his eyes to everything else.

Then is there no place in philosophy for the man of one idea? Assuredly there is—if he really has an idea. Jesus was a man of one idea; so was Moses, but the idea—the leading principle, the "bottom fact" of each of these leaders, was so great that by necessity all others were tributary to it. But inspiration and divinity are not attributes of everybody; many men claiming prophetic or Messianic qualities arose after Jesus died, but history has been obliged to classify them all with "false Christs."

A common fault of men with reasoning impulses is the fancy that the sole purpose of philosophy is to devise something new. "There is nothing new under the sun," said the wisest man of the ancient Hebrews, and other philosophers have been proving it ever since Solomon died. The wisest men of the present day have improved upon the ancient philosophers only as new facts have been announced and proved; all of them acknowledge their indebtedness to Plato and Aristotle. Philosophy has not become infallible, great though the number has been of new facts upon which to base theories. The utmost that philosophy can do is to start from "what is" toward the probability of "what will be" or "what should be"—to go forward from causes to effects, or backward from effects to causes.

Why, then, should we interest ourselves at all in philosophy? Because "every man shall give an account of himself unto God." To passively accept whatever is told us is to allow one of the noblest of human faculties to decay through lack of use. One of the grandest results of the Reformation was the liberation of the human mind, concerning things spiritual and nearly all things else, from the domination of a few men who assumed to think, with authority, for all humanity. In all things material, mental, and moral, as well as spiritual, we should be able "to give a reason for the hope that is in us." In a multitude of counselors there is safety;

we do not entrust our national interests to the keeping of one man, but to several hundred men, and even these we divide into three departments, legislative, executive, and judicial, to both assist and check one another. It is the duty of each member of the body politic, social or spiritual, to use his head, as well as his hands and his heart, for the benefit of the race of which he, no matter how wise, rich, or powerful, is a dependent member. Regarded merely from the selfish standpoint, he rises and falls with his fellow-men; his interests, hopes, fears, and future are inextricably bound up with those about him. From a different point of view, any superiority which birth, health, education, and circumstances have given him above his fellows, should be utilized for the good of all. "Him that would be greatest among you, let him be the servant of all," said Jesus; the injunction is as binding and sensible regarding things temporal as things spiritual. To carelessly allow others to think for us, while we look only to our material interests is as foolish and blameworthy as to let others act for us, without question, in our daily affairs. The majority rules, and the tendencies of the majority are always toward the prosperity of the individual as distinguished from the community.

Human rights, whether of action, thought, or worship, require for their preservation the continual exercise of the best thought of the best men. "Eternal vigilance is the price of liberty," said Washington. "Stand fast in the liberty with which Christ hath made you free," said St. Paul. Liberty, in this favored land of ours, has not to be guarded by the armed man with eye suspicious and finger on trigger. Our enemies are more subtle than soldiers, more persistent and deadly than

savages: they are habits and customs of insignificant or unknown origin, which nevertheless by insidious approach, and our mistaken sense of security, force us into perilous ways from which retreat is difficult. In all matters of prosperity and intelligence, we are in the forefront of nations, but "the post of honor is the post of danger." We have not a government, but an administration; our officials, from the highest to the lowest, are not, according to the law, our masters, but our servants. It is, therefore, more seriously the duty of the American than the freeman of any other country to exert his best mental endeavors, regardless of his party affiliations, and all the selfishnesses peculiar to political parties, to exert his mind for the greatest good of the entire community.

Passing from material and political interests to those of the family, of society, and of the spiritual life, the obligations of the individual mind become greater. Not to know of the influences around him, not to think of them, is disgraceful in any person of ordinary intelligence. In all these departments of life, philosophy—again recalling that philosophy is love of wisdom—is an active and beneficent force. That written expositions of philosophy, many of which are very good, have not made these practicable applications is not to the point. Philosophy is not a result of work; it is a tool with which work is to be done. The man who makes the finest saws, hammers, planes, and chisels, does not specify the use that shall be made of them; according to the hands they fall into, they may make the table of the sybarite, or the altar of the Lord. Philosophy, when acquired, is a means; but a means not used for an end is like the talent that was hid in a napkin and buried in the ground.

NATURE.

NATURE never did betray

The heart that loved her; 'tis her privilege
Through all the years of this our life to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men,
Nor greeting where no kindness is, nor all
The dreary intercourse of daily life,
Shall e'er prevail against us.

—William Wordsworth.

THE USES OF MATHEMATICS.

BY PROFESSOR A. S. HARDY, PH. D.

Of Dartmouth College.

I.

ON opening a mathematical treatise the non-mathematical reader discovers that he is face to face with a new language. He is confronted with symbols which differ from those of his English text as radically as do those of stenography or German script, and which are subject to laws of combination and interpretation peculiar to themselves. This language is not merely an abbreviated notation, although many of its symbols originated in the attempt to secure brevity of expression. At one time algebraic reasoning was expressed in words, without the aid of any symbols whatever. Such was the algebra of the Arabs. Diophantus* of the Alexandrian school, and the early Hindoo algebraists, employed a system of abbreviations for such quantities and processes as are continually recurring, but the grammar of the language remained unchanged. This intermediate form of expression has been named syncopated algebra, being in fact an imperfect shorthand which observed all the laws of grammatical syntax. The modern language of mathematics has advanced still further. Its symbols are rarely suggestive, and are subject to rules independent of all grammatical construction.

The history of this language would be found exceedingly instructive. And by history I do not mean the dry recapitulation of the names of those who proposed the various symbols and the dates of their introduction. No history is instructive, although it may be entertaining, which fails to show us in the succession of events a thread of continuity, whose aggregation of facts does not form for us a picture of the growth of society; for facts and events are important only as they take their place among the phenomena of human progress.

A philosophical study of the evolution of mathematical symbolism would show that the adoption of seemingly unimportant characters, and the introduction of ap-

parently trivial changes in their meaning, always increased, far beyond the thought of the inventor, the scope and power of analysis as an instrument of research. It would be foreign to the object of this paper to enter upon this history. I desire merely to state the fact that the history of mathematics, so far as analysis is concerned, is bound up with the history of a language, and the power of mathematics as an aid to research has been dependent upon the perfecting of this its instrument. Indeed one of the most instructive presentations of the development of the science would be the simple record in their historical order, of those problems whose solution was adjourned, often for centuries after their first statement, until the symbolic language was adequate to attack them. And to-day problems are proposed which baffle the current notation. Progress in physics and astronomy is blocked chiefly because the mathematical functions now in use are impotent to express the ideas and facilitate the reasoning processes involved.

A striking illustration is afforded by the problem of the nature of the interplanetary medium, the difficulty of whose solution consists quite as much in the lack of an adequate mathematical method as in the absence of a satisfactory working hypothesis. But while the inadequacy of the language of analysis is striking when compared with the infinite unknown lying about us, the brilliant service it has already rendered, remains unquestioned. So that I think the first thought of the mathematician who was called upon to enumerate the uses of the science would be of this symbolic language, at once so flexible and so precise, so simple in its uniformity and yet so general in its scope, the most searching and most powerful weapon yet forged for the human mind, contributing to progress not only in those of its so-called applications which secure to men a greater safety of person and property, a readier satisfaction of wants, and a larger liberty of action, but in the attainment of those abstract results of thought less directly associated with the material welfare of the race.

*Diophantus, the only Greek writer on algebra. It is not definitely known when he lived, probably about the fourth century A. D.

There is a use of mathematics to which I wish to allude at this point because I believe its value in this direction has been overestimated. I refer to the position it occupies in the theory and practice of education. Like Greek and Latin, for a long time it has held an important place in the higher instruction as a disciplinary study. Nothing short of a profound belief in the study of language and mathematics as a means of mental training, apart from all considerations of subsequent utility or of the information thus acquired, can explain the manner in which they have been taught. Although of late years the drill of mental arithmetic has been neglected and elective courses have been introduced in the higher instruction, yet the office of mathematics in the curriculum is still to form rather than to inform, to train the mind rather than to put a tool into the hand for the trained mind to use. In the general extension of the curriculum the time devoted to mathematics, has been increased; and if the object was simply to open vistas of a great field of investigation, or to secure some acquaintance with a powerful method of inquiry and the results it has accomplished, quite as cogent an argument might be framed for the study of the calculus as for that of botany or any one of the arts and sciences. But as a means of discipline the extension of courses of study into analysis is of doubtful value, because in this respect the geometrical method is infinitely superior to the analytic. In pure geometry the mind is constantly on the strain in a process of close reasoning, unassisted by any symbolic language or rules of procedure. It is obliged to keep constantly before it the sequence and bearing of every step in the logical process, and, like a muscle at work, is in a continuous state of tension. Analysis, on the other hand, is a labor-saving machine of the intellect, and having once mastered its grammar we manipulate signs as we could not notions. The mind is relieved of effort by the conversion of a mental into a mechanical process. In geometry a step is easily omitted, a false one easily taken, but the discovery and correction of the error is difficult, requires thinking, often involves the beginning over again of the entire proof. In analysis the errors are largely clerical, orthographical, due rather to careless writing than to careless thinking, and are discovered and corrected by the eye without mental exertion.

The relief afforded by the substitution of

signs for ideas is further seen in the ease with which an analytic process of reasoning may be adjourned and resumed at pleasure. There can be no question that the acquisition of the language of algebra, and the abstract reasoning of the theory of equation, afford an excellent discipline, although quite different from that of geometry. It is equally true that beyond this point the disciplinary value of analysis is relatively insignificant. A study, like a food, may be tested by the digestive and assimilative processes. That geometry occupies rightfully its place is seen from the comparative ease with which all master its methods. In algebra and trigonometry the differentiation of aptitude begins to show itself, and in analytic geometry and the calculus we recognize the fact that the student can no longer be treated as a unit. Except for the specialist both the disciplinary and the practical factors have disappeared.

It is one thing to enumerate the uses of mathematics, but quite another to explain them. For example, Kepler,* after making an enormous number of observations upon the heavenly bodies, concluded that the squares of the times occupied by the planets in moving about the sun are proportional to the cubes of their distances from that body. But this inference had no especial significance until, by the calculus, the mathematician proved that if it was true then the cause of the motion must be an attractive force directed toward the sun's center, its intensity varying inversely as the square of the distance, and so laid the corner-stone of modern astronomy—the law of gravitation.

Inability to use the language of mathematics renders explanation difficult, if not impossible, because the reason for the existence of this language is precisely its superior power of expression. Without it the mathematician cannot utter his thoughts, nor even think them. He must be content with a bare statement, not because the listener is unable to follow the argument but is ignorant of the language in which it is best uttered. Certain advantages of this language may be illustrated in a simple manner. Let us consider for a moment the Arabic notation of common arithmetic. The operation of multiplication would be indicated by a simple statement in figures, as $7 \times 5 = 35$. This operation is in reality one of equal additions, that is, it is 7 re-

*Johann. (1571-1630.) An eminent German astronomer.

peated 5 times, and as 7 and 5 are themselves symbols for unity repeated 7 and 5 times respectively, 7×5 , or 35, is an abbreviated notation for the repetition of unity 35 times.

The convenient methods of arrangement used in the multiplication and division of large numbers are quite modern. They lay no tax upon the memory beyond the multiplication table, and the order of arrangement is so simple that the operation soon becomes an automatic one performed with great rapidity. The secret of this simplicity lies in the fact that the figures have local as well as absolute values, that is, 5 is 5 units, or 5 hundreds, or 5 hundredths, according to the *place* it occupies on the left or right of the decimal point.

The abacus,* on which the ancients depended almost entirely for computation, as do still the Chinese, Japanese, and to some extent the Russians, was nothing but a concrete way of representing a number in the decimal system, the wire on which the balls are strung corresponding to what we call a *place*; and it is somewhat remarkable that this principle of the dependence of value on place, thus employed in the mechanical device, was not made use of in the written symbolism until after the lapse of centuries. We have to go back to primitive methods of calculation before we can realize the immense advantage of what by common usage has grown so familiar to us. Uncivilized tribes seem to have used the digits of both hands for counting, employing two men for numbers beyond ten, one to keep count of the units, the other of the tens.

The Greeks employed an alphabetic notation, but as it did not assist in the actual performance of operations it was non-progressive. It simply afforded a means of recording results. Each separate operation required recourse to the abacus, or was supplied by a multiplication table committed to memory, and was then recorded alphabetically. It is not to be wondered at that arithmetic made no progress among the Greeks when we remember the laborious operations and dreary mechanical difficulties of a system which made the extraction of the square root the work of a master mind and almost wholly forbade the use of fractions.

* (Ab' a-kus.) A small frame in which rods or wires were fitted having balls or beads strung on them. It was used in mathematical calculations.

Our present notation permits a child to deal with the fractions before which Euclid* would have recoiled. With the exception of the fractions $\frac{2}{3}$ and $\frac{3}{4}$, the Greeks followed the Egyptian practice of reducing all fractions to the sum of component ones whose numerators were unity. Thus $\frac{19}{156}$ was regarded as the sum of $\frac{1}{13}$, $\frac{1}{39}$, and $\frac{1}{52}$, and there is no reason

for supposing that any rule existed for the formation of the component fractions, the accumulated experience of previous writers being probably the only source of assistance. Try to imagine what would happen if our present symbolic notation was swept away, and the clerks who record the complex and gigantic transactions of a single mercantile house were replaced by the learned Egyptian Priest Ahmes,† who, in multiplying a number, say x , by 13, first multiplies by 2, then doubles the result, again doubles the last result, and finally adds together x , $4x$, and $8x$; or by the Roman schoolmaster who dealt with fractions only as he could reduce them to twelfths (approximately).

All the operations of arithmetic consist in the increase or decrease of numbers. Such evidently are the operations of addition and subtraction. Multiplication is a process of equal additions; thus, in 7×19 , what is required is the sum of seven nineteens. Division is a process of equal subtractions; thus if it is asked how many nineteens 137 contains, we might proceed to subtract 19 from 137, and then again from the remainder, and so on, the quotient being the number of subtractions, and the remainder what is left after the last possible subtraction is performed. A power being the result of multiplying a number by itself, this number being the root, the formation of powers and the extraction of roots (involution and evolution) are also forms of addition and subtraction; and these six operations comprise the whole of arithmetic. Its notation, rules of arrangement, and operation have no other object than the abbreviation of the two simple processes of increasing and decreasing a number of things. Hence, over and above all aid derived from the abbreviated processes, the habit of rapid calculation depends upon practice in

* (U'klid.) A celebrated Greek geometer who lived about 300 B. C. His name is commonly substituted for that of the science of geometry.

† A priest of Thebes who lived in the reign of Amenhotep I. of the 18th dynasty.

0-1 Suppose we wish the product
1-2 of any two numbers in the second
2-4 column, as 4,096 and 8,192.
3-8 The corresponding numbers in
4-16 the first column are 12 and 13.
5-32 Their sum is 25. The number
6-64 opposite 25 is 33,554,432, and
7-128 this is the required product.

The economy of time thus secured is something enormous, and the immunity from error gained by the simpler operation is of priceless value to the computer. This is why the invention of logarithms is often ranked with that of the calculus. They have completely revolutionized all methods of calculation formerly employed and while for ordinary purposes or single operations the time required in learning how to use logarithm tables would exceed that necessary to

reach the result without them; for the professional computer their value cannot be exaggerated; and they also facilitate the construction of other useful tables which without them would require centuries instead of years, and which would be far less reliable owing to the errors unavoidable in prolonged series of calculation. Of the value of logarithms to astronomy, La Place* says, "They reduce to a few days the labor of many months, double the life of the astronomer, and spare him the errors and disgust inseparable from long cal-

culations"; and Proctor* adds, "Without them the computations rendered necessary by more correct observations would far exceed the limits of human patience or industry, and astronomy could never have acquired that precision and accuracy by which it is now distinguished above all other branches of human knowledge."

The aid they render to navigation is scarcely less important, and their invention marks a distinct stage in the development of the science of trigonometry.

* Pierre Simon. (1749-1827.) A celebrated French astronomer and mathematician.

* Richard Anthony. (1837-1888.) An English astronomer.

THE BURIAL OF ROME.

BY RODOLFO LANCIANI, LL. D.

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THE question most often asked me in my recent visit to America was, "How came ancient Rome to be buried under a bed of earth to a depth which ranges from five to sixty feet?" The question is more easily put than answered. The accumulation of the modern soil depends upon so many causes, great and small, that it is very difficult to bring them all together in the proper light before the reader.

I will begin by relating a personal experience which took place in 1883, during the excavations of the villa of Quintus Voconius Pollio, at Marino, the ancient *Castrimœnium*. The site of this villa was discovered by mere chance, during the construction of the railway from Rome to Marino, in a place called "Il Sassone," and its regular excavation was undertaken by a personal friend, Signor Luigi Boccanera. I had been wishing for years to come across an excavation in virgin soil, where no one should have disordered the historical pages corresponding to the "stratifications" of the ruins. Here all the chances were in my favor. Although surrounded by villas which had been excavated for centuries, as for instance, the one of Valerius Messalla, of Tavolenus, of Murena, of Tullius Asper, etc., this one of Voconius Pollio had never before been disturbed. In less than a month's time, Signor Boccanera was able to bring to light eighteen works of art, among which were the Pythian Apollo now in the Vatican Museum, the Marsyas now in the Berlin Museum, the Ganymedes now in the Baracco collection.

The daily supervision of the excavations convinced us that the palace, containing so many works of art, had not been destroyed by fire, or by earthquake, or by the violence of man, but had been left to decay by itself, piece by piece, and atom by atom. The palace moreover contained but one floor, the ground floor, no suspicion of staircases leading to upper stories having been found anywhere. Now, as the position of the building was such that the "stratifications" of its ruins could not have been altered by the action of water or atmospheric forces, and the volume of the same ruins could not have been either augmented or diminished, it was easy to calculate, with almost geometrical exactness, what is the material produce of the crumbling of a Roman house.

The results of the careful calculation are these. A noble Roman house, one story high, produces a stratum of loose material and rubbish, 1 meter, 85 centimeters* high, or in other words, a building about 30 feet high, crumbling down under the circumstances which caused the ruin of the villa of Voconius Pollio, produces 1.85 cubic meters, for each square meter of surface.

Now if a building of very modest proportions has created such a volume of ruins, it is easy to imagine what must have been the results of the destruction of the private and public monuments of ancient Rome.

* A meter is a measure of length equal to 39.368 American inches. A centimeter is the hundredth part of a meter, and a millimeter the thousandth part.

About the middle of the fourth century after Christ, the city contained 2 amphitheaters, 11 forums, 10 basilicas, 11 thermæ, 28 public libraries, 290 docks, 2 circuses, 856 public baths, 46,602 private houses, 1,790 palaces. We know with sufficient exactness what the height of these buildings was, more especially that of private houses. Strabo* mentions a law made by Augustus against the raising of private houses above 70 feet. Trajan† tried to diminish this maximum to 60 feet. Tertullian‡ describes the house of a certain Felices as reaching the skies. Houses built in the Campus Martius, against the cliffs of the capitol, reached the very platform of the temple of Jupiter Capitolinus, and enabled the followers of Vespasian to storm the citadel during the civic wars against Vitellius. The columns of Marcus Aurelius and Trajan tower 140 feet above the level of the surrounding forums. The pediment of the temple of the Sun, built on the edge of the Quirinal hill, rose more than 250 feet above the level of the Campus Martius. Considering that scarcely the ten thousandth portion of this immense mass of buildings has escaped destruction, and that all the rest have crumbled into dust and rubbish, we cannot wonder that the ancient level of the city should now lie buried so deep. Imagine for a moment that the forum of Trajan, excavated by Pope Pius the VII. at the beginning of the present century near the very heart of the modern city, should not be cleaned or swept once a week, as is the case now. At the end of each year it would be covered by a veil of dust half an inch thick; at the end of one century the forum would have disappeared underneath fifty inches of rubbish, and I speak of matter accumulated there simply by the action of rain and winds. But if the forum of Trajan, in its present state, should be selected by the living generation as a receptacle for the daily refuse of the city, its disappearance would take place in a few years; and this has been the case with many spaces of ancient Rome; with the Coliseum, with the Roman Forum,

with the forum of Augustus, with Palatine, and so on. At all events this process of the increase of the Roman soil begins with the very foundations of the city. I have sometimes discovered four different buildings lying one under the other. The mediæval church of St. Clement was built in 1099 by Paschal II.* above the remains of another basilica built seven and a half centuries earlier. This latter rests upon the walls of a noble patrician house of the second century after Christ, under which the remains of an unknown republican building are to be seen.

When the new Via Nazionale was cut across the Aldobrandini and Rospigliosi gardens, on the Quirinal hill, in 1877, we met first with the remains of the baths of Constantine; then with the remains of the house of Avidius Quietus; thirdly with the house of Claudius Claudianus; and lastly with some constructions of early reticulated work. The baths of Titus are supported by the remains of the golden house of Nero; the baths of Caracalla, by the remains of the house of Asinius Pollio.

When the Emperor Diocletian began the construction of his own thermæ, he leveled to the ground two temples and many other public or private buildings to the extent of one hundred thirty-six thousand square meters. The raising of new constructions in one quarter, was constantly followed by the burying of others.

One of the problems which has often given matter for speculation is where the twenty-four millions cubic feet of earth and rock, removed by Trajan to make room for his forum, were deposited. This problem had not been solved when I published my book on "Ancient Rome," in 1888 (p. 87). I think that I am now able to give a clue to the mystery. The twenty-four millions cubic feet were carted and deposited within the first milestone of the Via Salaria, on each side of the road, over a district used as a public cemetery. In building the new suburban quarters on the same Via Salaria, we have rediscovered this cemetery, and ascertained that it contains two beds or layers of tombs, one belonging to the first century of the Christian era, deliberately buried under a mass of loose earth and stones from ten to twenty feet deep; the upper one belonging to the third century after Christ, nearly level with the actual sur-

* A Greek geographer who lived from about 60 B. C. to 24 A. D. He spent a number of years in Rome, where he gave much time to writing a work on geography.

† See "Outline History of Rome," p. 202. For accounts of other emperors mentioned see index of the same history.

‡ Quintus Septimius Florens. A Latin Father of the church, born at Carthage about 160 A. D. He was the author of numerous works, devotional and controversial in character. The date of his death is not known.

* The Pope who succeeded Urban II. in 1099. He died in 1118.

face of the ground. The characteristics of the lower and earlier cemetery are the cremation, or incineration, of the bodies, the ashes being kept in cinerary urns inscribed with the name of the deceased; those of the higher and later cemetery are the entombment, or burial of the bodies in coffins or sarcophagi of marble or terra-cotta.

This wholesale burial of a district half a mile square, accomplished at one and the same time, during the golden age of the Roman commonwealth, cannot be attributed to ordinary causes. It was the result of some colossal excavation made in some other quarter of the city by the imperial government, and most likely of the excavation of the forum of Trajan. At all events, we have other instances of public cemeteries which have disappeared under the same circumstances. Enough to quote the authority of Horace (*Lib. i. Sat. 8, v. 15*).

Ancient inscriptions and classic writers furnish us with other documents concerning the increase of the Roman soil. Frontinus* (*De Ag. 18*) remarks how the height of the seven hills had increased already by the dumping of rubbish—*colles excreverunt rudere*. An inscription wallled in near the very entrance of the Vatican Museum, and discovered at the beginning of the last century, near the first mile-stone of the Appian Way (*C. I. L. VI. 1270*) describes how the steep incline leading from the river Almo to the temple of Mars had been made easy and level by the removal of large masses of earth. The threshold of the arch, over which the aqueducts cross the Via Tiburtina, an arch built by Augustus four years before Christ, lies three meters lower than the threshold of the gate (now called Porta S. Lorenzo) built side by side by Arcadius and Honorius in 402. These figures give us a yearly average of seven millimeters and a half of rise for the surrounding district, during the 406 years which elapsed between Augustus and Honorius. The inscriptions engraved on the same gate of S. Lorenzo describe among the works undertaken by the said Honorius toward the strengthening of the fortifications of Rome, the removal of the rubbish accumulated along the line of the walls (*EGESTIS IMMENSIS RUDERIBVS*).

These proofs, which I have quoted at random from monuments and writers, show that before the Fall of the Empire the ground rose equally on the hills and on the plains. However, after the barbaric invasions, twelve out of the fourteen quarters (*regiones*) of the city having been abandoned and turned into farms and orchards, the rise of the hills diminishes and that of the valleys and plains increases at a prodigious rate; a fact which can be explained, to some extent, by the natural fall of materials from the heights, and by the action of the atmospheric forces. The greatest difference between ancient and modern levels which I have yet found in Rome is 72 feet. It was found in excavating the *tablinum*, or reception room, of the House of the Vestals at the foot of the Palatine hill. The foundations of the north-east corner of the new treasury buildings were sunk in 1874, to a depth of 41 feet, before the stratum of débris was passed through. The foundations of the house which forms the corner of the Via Cavour and the Piazza dell' Esquilino, were sunk likewise to a depth of 53 feet. At that level the remains of some baths, built by Nerva Cerialis, were discovered, with statues, busts, bronzes, inscriptions, etc.

The rise of the hills after the Fall of the Empire is absolutely artificial. I mean to say that if there was an augmentation in the level of the soil, that it happened by the work of man, and as a consequence of the building of palaces, churches, and villas. I shall quote here a curious illustration of the theory I am trying to explain. The soil which covers (or rather covered) the northern half of the palace of the Cæsars, and more especially the palaces of Germanicus, Tiberius, Caligula, and Domitian, has not been created wholly by the crumbling or destruction of those palaces, but it is mostly soil removed from the low lands of the Campus Martius to the top of the Palatine hill, by Cardinal Alessandro Farnese when digging the foundations for his palace, and for the Church of the Gesu. After remaining there for nearly three centuries the enormous mass of material has again been removed, and carted one mile away in the valley between the Aventine hill and the Church of St. Balbina, in order that the remains of the imperial buildings should be laid bare. The district stretching between the Porta Pia and the Porta Salaria has been lately raised to a considerable height with the soil extracted from the foundations of the treasury

* Sextus Julius. A Roman general and author; prætor in 70 A. D., and several times consul. He died in 106 A. D.

buildings and of the royal mews. Without quoting any more instances, I wish only to observe, that if these cases were not known, how could we explain the unexpected rise of the places above named, on the Quirinal and Aventine hills?

When we consider that the archæological stratum, the formation of which I have tried to describe, is at least nine square miles in extent, we wonder how it has been possible to excavate, and search, and actually sift it, yet the renaissance of classical studies. Yet this is the case.

During my long experience of Roman excavations, and especially since the building of the new city began in 1871, about four square miles have been upturned. Not taking into consideration works of art, objects of archæological interest, found scattered here and there in small secluded spots—mere crumbs fallen from the banqueting tables of former excavators—I have found three places only of any considerable extent, which had absolutely escaped investigation.

The first is the district now occupied by the central railway station, on the border line between the Quirinal and Viminal hills, excavated between 1871 and 1872. It was occupied in classic times by a cluster of private houses built in the so-called Pompeian style. It seems that being threatened by a conflagration, their inhabitants had collected hurriedly all their valuables and most precious works of art, and heaped them up in confusion in a hall, opening on a side street, which they considered as a comparatively safe place. The roof of the hall, however, caught fire, and in its fall carried down the walls in such a way as to roof over the heap of bronzes and marbles placed in the middle of the pavement. We discovered the place in February, 1871, and were able to move to the Capitoline Museum the artistic bronze furniture of two or three Roman houses, the marketable value of which was calculated at about \$60,000.

The second virgin spot was discovered on Christmas Eve, 1874, near the south-west corner of the Piazza Vittorio Emanuele on the site of the *Horti Lamiani* (Gardens of Aelius Lamia) which had been incorporated by Caligula into the imperial domain. We had been excavating during the previous days a portico, 200 feet long, with a single line of fluted columns of *giallo antico* (yellow Numidian marble) resting on pedestals of gilded marble. The pavement of the portico was

inlaid with Oriental alabaster, and the walls covered with slabs of a certain kind of slate, inlaid with festoons and groups of birds and other delicate designs in gold leaf. At the foot of the wall, but concealed from view, ran a water-pipe, with tiny jets, two feet distant one from the other, which were evidently used to keep the place cool in summer weather. At the northern extremity of the portico the floor sank into a kind of chasm, at the bottom of which we discovered during that memorable eve, the bust of Commodus, under the attributes of Hercules, the most elaborate piece of work which has been found in Rome by the living generation; another bust of the same emperor, of smaller size; the statue of the muse Polyhymnia; the statue of the muse Eratos; the statue of the Venus Lamiana; two statues of Tritons; a bust of Diana; and several other works of art, such as legs, arms, and heads set into bronze draperies.

The third and last spot which we have been the first to investigate since the Fall of the Empire, is the southern half of the House of the Vestals. However, as I have given a minute account of this charming discovery in Chapter VI. of my "Ancient Rome," it is needless to enlarge upon it here.

Before coming to a more detailed account of recent discoveries connected with the history and the topography of ancient Rome, I must mention two particulars, which explain to some extent our success in bringing to light almost daily, new monuments and works of art and curiosity. The first is, that the pioneers of archæological research, that is to say the excavators who preceded us, have stopped in many cases at the wrong level. Finding mosaic and marble pavements, or pavements of streets and squares, they thought to have reached the end of their pursuits, and turned their energy in other directions. From what I have said about the superposition of Roman buildings, it is easy to see how wrong they were. Here also I must be allowed to quote a personal experience. In 1877 when the new boulevard connecting the Piazza Vittoria Emanuele with the Porta Maggiore was cut, we discovered a portion of the palace of Licinius Gallienus already excavated by Francesco Belardi and Giovanni Battista Piranesi, more than a century before. These two men having gone as far down as the level of the drains running under the pavements, considered their task

accomplished, and satisfied themselves with removing whatever could be removed, even bricks of the walls. In digging to a deeper level for the building of the modern drain, we discovered a group of columbaria,* mostly belonging to the Statilian family, which columbaria had been buried when the cemetery between the Via Labicana and the Via Prænestina was turned by Gallienus into an imperial garden. No harm, of course, had been done to the *loculi*† and *sarcophagi*, in which the ashes and the bodies of the deceased lay in peace. More than seven hundred inscriptions were found *in situ*, together with a large collection of urns, of cineraria, of lamps, cups, sculptures, and ornaments of the person.

*"Subterranean sepulchers in the walls of which were niches for urns of ashes."

†Coffins.

This habit of stopping at the wrong level has not yet been fully given up. The excavation of the Roman Forum for instance, undertaken and accomplished by our national government, is far from having yielded all the results which we were entitled to expect from it, as shown by the accidental discovery of the foundations of the triumphal arch of Augustus, made not many months ago by a stranger, a German, in the narrow ledge of ground running between the temples of Castor and Pollux and of Julius Cæsar.

The second particular I have to mention, refers to the ancient drains, the exploration of which has always been despised and considered worthless. We have found more small valuables in ancient drains, especially coins and silver and gold jewelry, than in private houses, and even in tombs.

(To be concluded.)

End of Required Reading for October.

TO-DAY.

BY LUCY E. TILLEY.

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| <p>WEAR thy great crown in purple peace, O blest To-day, The splendor of the Past has on thee lain; Thy broad brows flinch not 'neath the strain, Although thou wearest the dead ages' bay.</p> | <p>The golden tongues of yesterday all sing in thee Who art the mouth-piece for their pent-up thought; And like the blue-browed river thou hast caught The throbbing murmur of the larger sea.</p> |
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Sweet, sweet To-day. Not only hadst thou room
For all the great fruition of the Past,
But in thy mold already is there cast
The young-hued calyx of To-morrow's bloom.

HOW WE GET OUR WASHINGTON NEWS.

BY A. W. LYMAN.

A VISITOR to the National Capital a decade ago summed up a day's experience in these words: "From the galleries of the House of Representatives popular government appears to consist of a confused mass of desks and desultory men—the desks littered with books and papers, and the men continually walking about in every direction; of a vast amount of private correspondence; a relay of page-boys obeying a Turkish magnificence of clapped hands from this or that member to do his errands; and a monotonous droning by the clerks, together with a minimum of oratory. All this against a dignified background of cigar smoke in the lobbies, and of coat-rooms and barber-shops where Congressmen lounge and joke or confer on coming measures. You hear some half-audible speaking, but the general walking, talking, and rustling suggest how De-

mosthenes, if he had enjoyed the privilege of a seat in this body, might have dispensed with the aid of the sea."

Those persons who have looked down upon a session of the House of Representatives from the visitors' galleries will recognize this description as true to the life, and those who have not been so fortunate as to see the spectacle for themselves may accept the picture as a bit of striking realism.

It is amid such confusing scenes from day to day, during the sessions of Congress, that the Washington correspondents keep the records of the times and tell the world how the greatest nation on earth is governed. A cynical observer of events at the National Capital once said to me, "The country thinks it is governed from the Executive Mansion and the Capitol, but as a matter of fact it is ruled by Newspaper Row." This statement is as much an exaggeration on the one side as was Horace Greeley's on the other when that veteran journalistic philosopher likened the newspaper man's work to that of the bellows-blower, to the organ—the journalist's function, in Mr. Greeley's view, being to furnish wind for the historian of the future. Somewhere between these two estimates the Washington correspondent should be placed. They are neither dictators nor bellows-blowers. They are not to any great degree even molders of public opinion, for the editors of the great journals who interpret and comment upon the work of the correspondents may justly claim that distinction. With few exceptions the newspaper corps at the National Capital is composed of men who claim to be nothing more than the faithful recorders of events—trained reporters who give as nearly as may be the daily story of the complex and interesting life of this great center of political activity.

But how do they get their news? That is always the question asked by every visitor to the Capitol, who spies in the galleries reserved for the press, directly above the presiding officers of the two Houses, the little groups of correspondents, laughing, chatting and, on rare occasions, taking notes of the proceedings on the floor. The same question doubtless is asked by readers in distant homes who are amazed at the variety, quantity, and completeness of the Washington news in the daily journals.

For the benefit of those persons who marvel how the occupants of the press galleries

can follow and report the detailed proceedings of Congress, to which they apparently give such studious inattention, I will say that they do not report them. The routine reporting is left almost entirely to the press associations, those great combinations by which the newspapers of the country are enabled to collect the greatest amount of news at the least possible cost. These press associations under special rules of the two Houses of Congress are permitted to station men near the clerks' desks on the floor of the Senate and House, who make full and accurate synopses of the proceedings. The reports prepared and sent to the newspapers of the country by these associations are colorless, unbiased summaries which avoid comment and lack the interesting touches of life and that elucidation which the special correspondents are free to give to their own dispatches. The press associations also perform a useful and important public service in collecting the routine news of the various departments and bureaus of the government. To them the President always gives his appointments, messages, or other communications for the public. The Secretary of the Treasury sends to the country through them his debt statements and bond purchases, the Postmaster-General his appointments of postmasters, the Secretary of War his army instructions, and so on through the whole round of official intelligence. The work of these associations is most thoroughly and carefully done and the special correspondents are thereby relieved of a vast amount of irksome toil.

But to return to the occupants of the press galleries. The eight or ten correspondents usually seen in them at a time are but a small part of the total number entitled to their privileges. The Congressional Directory contains the names of one hundred six persons who hold cards of admission to these galleries. Admission to them is regulated by the committees on rules of the two Houses of Congress who act conjointly with a standing committee of five newspaper men selected by the correspondents themselves. The rules require every applicant for the privileges of the galleries to sign a statement that he is not engaged in the prosecution of claims pending before Congress or the Departments, and will not become so engaged while allowed admission to the gallery; that he is not in any sense the agent or representative of per-

sons or corporations having legislation before Congress, and will not become either while retaining his place in the gallery. Even the signature to this declaration does not secure the desired privilege until the standing committee of correspondents approves the application.

The gallery privilege is not of great importance to a correspondent, so far as any advantage in seeing and hearing the proceedings is concerned, for the occupants of the public galleries can see and hear equally well. But admission to the press gallery indirectly helps a correspondent in many ways. His name goes into the Directory of Congress as that of a newspaper man in good and regular standing; he is admitted into the circle of correspondents among whom there is a certain *esprit de corps*; he gains access to the press room, in the rear of the gallery, where he can enjoy all the facilities for preparing his dispatches and letters and where the telegraph companies have established branch offices for his especial convenience. Here, too, members of Congress who frequently desire to establish friendly relations with the home newspaper may find its representative when they have news to communicate. In a word, the press gallery is the rendezvous of the correspondent when he is at the Capitol on his daily round. In former times when the number of newspaper representatives here was smaller the correspondents had the privileges of the floors of the two Houses, and the gallery was of little importance to them; but with the growth of the press of the country and the cheapening of telegraphy the number increased to such an extent that both Houses changed their rules so as to exclude all newspaper men from the floor during the sittings of Congress. Now when the correspondents wish to see Senators or Representatives they must wait in the lobbies while their cards are carried in by the doorkeepers.

There is no method or system in news-getting in Washington. The duties of the correspondents are so diverse, the demands of their papers are so different, that each man among the news-gatherers marks out his own lines and accomplishes his task in ways known only to himself. There are hardly two newspapers that handle the news alike or set the same relative value upon it. An event that one newspaper would treat to the extent of a column, another would dismiss in a paragraph. A Chicago newspaper would

give two columns to a speech in Congress on our land policy and a New York journal would cut it down to a few sentences. A New Orleans paper would be delighted to have its correspondent telegraph in advance of rivals the decision of a River and Harbor Committee as to the size of the Mississippi River appropriation for the ensuing year, while a Boston newspaper would not care whether it had this news or not.

The first requisite of a good correspondent, as this implies, is that he should know his newspaper. It is for this reason that nearly all the important journals send to Washington men who have been trained and tried in the home office. The average Washington correspondent generally knows the legislative needs of the city and state from which he comes; he is acquainted with their politicians and their public men; probably he has reported the proceedings of the state legislature and thus become familiar with legislative methods. Coming to Washington with all this experience he easily adapts himself to the new field. He is able to sift from the great mass of material such news as his paper demands and to make no mistake in estimating its relative importance. He does not govern himself by the kind and quantity of news matter that other correspondents send to other newspapers. He must select and judge for himself. No newspaper attempts to print all the news from Washington; none could do it.

There is as much individuality in the corps of correspondents as in the journals they represent. Many of them have pursued the study of specialties and have become eminent in them. General H. V. Boynton of the Cincinnati *Commercial-Gazette* is known the country over as a military critic, and some of his reviews of battles and campaigns in the Rebellion rank high in our military literature. Major John M. Carson of the Philadelphia *Ledger* has given years of study to financial questions. Few of our statesmen possess his knowledge of the vast business of the Treasury Department, and his monthly analyses of the public debt statements have long been accepted by the leading bankers of the country as the best exposition of our financial condition to be found anywhere. Mr. Fred Perry Powers of the Chicago *Herald* is an accomplished writer on economic subjects and was recently awarded the New York Reform Club's prize for the best paper on the tariff as

affecting local industries. Mr. William E. Curtis of the Chicago *News* is an authority on South American questions, he having traveled over every part of that country for the purpose of studying its politics, resources, and possibilities. These gentlemen are all active workers in the whole field of newspaper correspondence and cultivate their specialties in addition to their regular duties.

But let us get a glimpse of some of these correspondents at their work. Their hours and methods vary, but in some respects their ways are not dissimilar. Suppose we see, for instance, how the New York *Tribune* gets its Washington news. We notice the sign of that newspaper on a plain, old-fashioned brick mansion on F Street a few doors below the Ebbitt House, a block and a half from the Treasury Department. It is the center of the hotel district and right in the rush of the news current. Along F Street and down Fourteenth Street within a radius of two blocks you will see the signs of half a hundred other newspapers, some in pretentious ground floor apartments, others up two or three flights of stairs in more modest quarters. The *Tribune* occupies the rooms that were once the spacious double parlors and dining-room of an aristocratic Washington dwelling of a third of a century ago. The floors are neatly carpeted, comfortable chairs and substantial desks abound, and cases well filled with reference books, and files of the leading newspapers make up the equipment of the office. In one corner is a telegraph instrument, the *Tribune* having its own leased wire to the New York office and an operator in its special service. There is the necessary telephone, of course, by means of which instantaneous communication may be had with the White House, the Capitol, the Departments, or the homes of public men. For many years a cab with horse and driver complete stood day and night in front of the office, but the telephone has made it possible to dispense with that service.

If the hour of our visit to the *Tribune* office is eleven in the morning we shall find Mr. M. G. Seckendorff, the correspondent in charge of the bureau, at his desk glancing over the New York papers, which have just arrived. He has previously read the Washington, Baltimore, and Philadelphia papers and made memoranda or clippings of news items concerning which he may wish to make further investigation or comment. Possibly his at-

tention is drawn to something that requires a trip to the White House or one of the Departments or a call on a distinguished politician at one of the hotels, in which event he drops his newspapers for a more convenient season. Congress meets at twelve o'clock noon and calls for his presence at the Capitol at that hour. Usually he plans to get there a little before the hour in order to visit some of the committee rooms. The committees meet as a rule between ten and twelve o'clock in the morning on fixed days, and the special correspondents find them important sources of news. The members of committees are generally ready to talk about what they have done, whether their sessions have been public or behind closed doors. The discussions often develop the drift of sentiment in a committee long before it is ready to report on any measure of legislation, and the alert correspondent is able to ascertain what will be the ultimate fate of a tariff bill or a Pacific funding act or an educational bill, days and weeks before final action is taken upon it in Congress.

At noon the members of the two Houses are in their seats in their respective chambers and Mr. Seckendorff may be found in the Senate press gallery. Major S. M. Clark, his assistant, appears in the House gallery at the same hour, to keep an eye on the proceedings of that body. By consulting the calendars of the two Houses or by inquiry of the presiding officers or clerks, Messrs. Seckendorff and Clark are able to determine pretty nearly the course of business for the day. The press associations on the floor below are able to keep the thread of the routine proceedings and the special correspondents do not need to follow them except on occasions of excitement and disorder when pen pictures of the scene are called for. At such times you will see the press galleries suddenly filled by the correspondents who have been lounging in the ante-room or gathering the gossip of the hour in lobbies and committee rooms.

Between four and five o'clock the *Tribune* men are back in their up-town office with well-laden note-books. One of them dictates to a stenographer while the other writes his own copy and by six o'clock one or two columns of matter are ready for the operator. An hour after dinner usually completes the day's work. Then comes the round of the hotels, or visits to Senators and Representatives, to gather the results of caucuses and conferences, or to get inside information about

forthcoming movements in politics, or the thousand and one other things that you read every day and wonder how the newspapers found them out. There is usually another hour's writing on the gleanings of the night, and it is midnight before the lights in the *Tribune* office are out and the correspondents reach their homes.

The story of one office is the story of all with only incidental variations. In the New York *Herald* office you will find Mr. Charles Nordhoff, the veteran journalist and literary worker, in charge. Mr. Nordhoff exercises only general supervision over the news work of his assistants, Messrs. Preston and Guthridge, and confines himself chiefly to editorial articles which are sent over the wires to New York. The New York *Times* bureau is in charge of Mr. Elbridge Gerry Dunnell, and the work is done in nearly the same way as in the *Tribune* office, Mr. Dunnell and Mr. Dupuy, his assistant, covering the two Houses of Congress and the general outside news. Similarly Messrs. Crounse and Lewsley perform the New York *World's* service. The New York *Sun* keeps but one member of its staff here, Mr. Lyman, but in the busy season it has the special services of several persons. All of the newspaper bureaus buy more or less news from time to time of wide-awake and ambitious young newspaper men who keep their eyes and ears open and have what Mr. Murat Halstead calls "the nose for news." There are many clever women workers, too, who write of society events and find ready employment in the offices of the principal newspapers during the social season.

The methods of newsgathering in the offices of the Boston, Philadelphia, Chicago, St. Louis, and Cincinnati newspapers differ little from those employed by the New York journals. Of course the correspondents of these papers keep a sharp lookout for news of peculiar local interest and this makes it necessary that they should see daily the Senators and Representatives from their respective localities. Public men as a rule are very good purveyors of news, and some of them have all the instincts of first-class newspaper men. Such newspaper veterans as Hudson and Mac-

farland of the Boston *Herald*, Morgan and Low of the Boston *Globe*, Gibson and Howland of the Philadelphia *Press*, Stevens of the St. Louis *Globe-Democrat*, Moore of the St. Louis *Republic*, Wight of the Chicago *Inter-Ocean*, Pepper of the Chicago *Tribune*, and Carle of the St. Paul *Pioneer-Press*, and others who enjoy the confidence and esteem of the public men from their several states, gather much important intelligence from these friends who know the inside of things that go to make interesting history.

Every Washington correspondent, too, has some private news sources known only to himself. In the various departments, at the foreign legations, among retired statesmen living here who keep in the current with the men of to-day, are good friends of many a newspaper man who at one time or another have given him news of importance, or hints that have led to interesting disclosures. Eyes, ears, and wide acquaintance with public men are the three prerequisites for every successful worker in the news field at the National Capital.

The early Washington correspondent was a leisurly writer of letters that reached their destination in a day or a week, according to the distance traveled by the slow-going mail. There are a few letter writers now—that is, correspondents who write comment and gossip or on society matters, but for the most part their epistles are rushed over the wires before the ink with which they are written is dry. The great corps of newsgatherers, of course, use the telegraph exclusively. No attempt is made at abbreviation or condensation of matter. The correspondent writes as freely and fully as though preparing copy for the printer in the home office and so perfect is the service that a dispatch filed in the telegraph office at midnight is read, revised, put in type, read in proof, and published in Chicago, San Francisco, or Boston before day-break, and laid before the reader at the breakfast table. The special dispatches sent out from Washington on the night of President Harrison's inauguration comprised in the aggregate more than two hundred and fifty thousand words.

THE SWISS ALPINE CLUB.

BY TITUS MUNSON COAN, M. D.

Of all the clubs that I know, the Swiss Alpine Club is perhaps the most distinctive in its character; certainly there are few others in which the cardinal objects of a club, — good fellowship and rational enjoyment, are so well combined. The Swiss Alpine Club is a walking club; but it is not, as you might suppose, a society organized for the purpose of rivalry in climbing. There are no contests between towns or cantons as to which shall scale the most arduous peaks or walk the farthest distances in a day; these contentions the Swiss leave to boys and to the English Alpine Club. The passion for struggle and victory is natural enough, they say, but let the visitors to our peaceful country, if they insist upon it, spoil their comfort and risk their lives in fatiguing and dangerous ascents; we will not worry ourselves or Nature in any such way as this. The true lover does not boast of conquests; and the real devotee of the Alps will woo Nature rather than seek to put her under foot. So the Swiss mountaineer, while if need be he is as daring and as adventurous as any other, laughs a little at the restless ambition of the members of the English Alpine Club to rush from one end of Switzerland to another and to scale the highest peaks in the greatest number and in the shortest possible time, regardless of comfort and æsthetical enjoyment. And while the English and Swiss Alpine Club men are both enjoying themselves and doing good work, the latter club is the one best worth belonging to, except for the insatiable athlete.

What is the Swiss Alpine Club? It is an association of over three thousand members, classified in thirty-four sections, according to the cantons and great mountain regions, from Aargau and Basel to Wildhorn and Zofingen. Each section has its own headquarters in some convenient town or city, with chairman, treasurer, and secretary; and each section has frequent excursions, winter and summer, according to carefully prepared programs. At the general annual meetings, held in different cities in turn, the members rally from all parts of the country, often three

or four hundred in number, when the elections are held and general business transacted as in other clubs. Then there is a grand banquet in the town hall, or whichever is the largest building in the place, and an excursion, or more than one, for all of the members who care to participate, each of these pleasures being provided under the most careful organization and for a very moderate fee.

I came to join the Alpine Club in this wise. Some years ago I was descending the precipitous cliffs of the Gemmi Pass, with a companion who was as fond of Alpine climbing as myself. As we came out upon the green slopes at the foot of the great mountain wall and entered an inn, a welcome shelter against the storm, I fell into talk with one of the most amiable of gentlemen, a pedestrian who had just found refuge from the pouring rain. He wore a badge of red and white; I saw from the cross upon the blazon that it was a Swiss society, and I inquired to what society he belonged.

"To the Swiss Alpine Club," he answered. "You have heard of it?"

"I have heard much of the English Alpine Club," I answered. "Is the Swiss Club much like it?"

My new acquaintance described briefly the differences between the two, and spoke of the usual qualifications for membership, as suitable age, endorsement, etc.; "and," he added, "you must be something of a mountaineer."

"How much?"

"The rules require that you should have climbed a mountain of at least ten thousand feet."

"Then I am qualified as far as that condition goes, for I have been to the top of Mauna Kea." Mauna Kea, in Hawaii, is 13,953 feet high.

It ended by his suggesting that I should become a candidate for membership, which I gladly did, and in due course of time was elected, receiving my notification at my home in New York. The next time I was in Switzerland, two or three years later, I presented myself at the headquarters of the club in

Neuchâtel and enrolled myself, probably the only American member among about two hundred twenty who were present at the annual meeting.

I have called the Swiss Alpine Club a climbers' club; but this is by no means all. It has three leading functions, all of which are interesting, and I will describe them briefly as I saw them, because they are the features of all the annual meetings. They are the scientific, the social, and the pedestrian.

First we had the annual elections, and the other business required was transacted,—all in the Town Hall used for the general meetings of the club. Meanwhile in special halls in other parts of the town, papers were read on scientific subjects, such as the geology and topography of different Alpine regions, and the movements of glaciers. Professor Forel, of Geneva, presented some very interesting original researches on the latter topic, and other men of note contributed to the discussions.

Then came the annual banquet, the second attraction of the meeting; two hundred men sat down to an excellent dinner in the Town Hall. A very interesting feature of the gathering was the alternation of speeches by members of the different German and French speaking cantons. Was it possible that the difference in language implied not the least animosity or prejudice between the speakers? Here were these unfriendly languages in the mouths of speakers of one nation,—speakers who were equally ardent lovers of their country. Nowhere else in the world are French and German spoken in such harmony as here,—though it must be confessed that the French members were often unable to understand the German, while the German, on the other hand, usually had a knowledge of French. But in spite of this difference in language, of this ignorance even, here was a people that was one of heart—an undivided nation.

What constitutes a nation? Not similarity of religious faith; not common race, descent, or blood: on all these points witness our own people, one of the most composite in the world. What, then, makes a nation, if it is neither language, race, nor religion? One thing only: unity of political feeling and institutions.

I inquired with no little curiosity whether there was any difference of feeling as regarded

the Franco-German war between the representatives of the different cantons, and my friends assured me that the German-speaking Swiss rather than the French had favored the success of the French arms. The reason was a plain one: the French cantons feared that in such case their own eastward part of Switzerland, being nearer to the frontier, would be the first to suffer from possible French ambition. The German-speaking Swiss, on the other hand, in the remoter cantons, felt a sense of security which agreed perfectly well with their phlegmatic temperaments. But both the French and German-speaking Swiss are at one in their political ideas; and in this unity they are a real nation. Nothing could be more genial than this annual festival. It was not disturbed by any discord of feeling, and as to the banquet it was a veritable love-feast.

Then a day was given to excursions on the lake and to seeing the local museums and sights. The town of Neuchâtel got up an historical procession representing the growth of civilization from the time of the earliest cave-dweller, the *homme lacustre*, down through historic centuries to the present age. There was Diviko, the savage chief of the Helvetians; there was the primitive Queen Bertha and her suite; there were the onager and mangonels of ancient warfare, the earliest cannon. The whole population of the city and its guests saw in a mile-long procession the dress, the weapons, the arts, and usages of the Swiss from the Stone Age down to our own times. This historic parade was gotten up with great care and archaeological study and considerable expense, and it received so much applause that it was repeated on the following day. What a sight it was to see the concrete history of ten thousand years thus recalled from air and earth, brought to life and made visible in the streets of a modern town! It was object teaching on the grandest scale, and the most picturesque.

How shall I describe the concluding day of the reunion? For the lovers of the mountains it was the greatest day of all; and for me at least it was an unequaled experience. Both the older and the younger men joined in a seven thousand-foot climb from the valley of Sallanches to the heights of the Jura; and of this excursion every detail down to minutes, meters, and centimes, had been arranged beforehand, for comfort's sake, by the experienced heads of the managing commit-

tees. The charm of this excursion was that nothing was left at odds and ends; all was carefully set down for us in black and white beforehand. We took our train at such a station at six in the morning; we left it an hour later at the highest point which it could reach in the mountain gorge; then we breakfasted at such an inn, at such an hour, at such a cost (it was a franc and a half, I remember, for a delicious repast), and we began the ascent of the mountain by a specified and excellent road, halting for rest at such another place and time, and reaching the glorious summit of the mountain in time for a hearty meal, in part carried by the tourists themselves, *tirée des sacs*, and in part prepared beforehand at the summit of the mountain some two thousand meters above the sea-level.

Nearly two hundred men joined in this delightful ramble; physicians, lawyers, clergymen, business men, many of mature years and best classes from nearly every canton in Switzerland. Among these mountains, and indeed generally in western Europe, a healthy man has no idea of calling himself old before he is eighty, and indeed several of our climbers on that memorable day were past seventy. Among the company, of course, were very many old friends, and the welcome of new members and acquaintances was very hearty. The joy in the wonderful landscape, the content in the pure air of heaven, the geniality of the Swiss, their glowing pride in their mountains and in their country, all were most enjoyable; and the pleasure was intensified by the perfection of the arrangements, the lack of friction, the thorough systematizing of every detail. Nothing could be more enjoyable than the day thus spent.

This Alpine Club is a triumph of civilization; its joys are purest; and they are the most perfectly realized in the companionship of appreciative spirits. And the Swiss Alpine Club numbers very many such.

Then came the lovely homeward walk down a wild valley, the shadows falling over our heads, toward the lake, and the runnels of the mountain ravine sounding in our ears. We had not scaled any perilous heights, we had not done any marvelous deeds, but the day with the Swiss Alpine Club was a day of pure beatitude. With what pain of absence do I remember it!

These delightful meetings are by no means confined to three days in the year. The Swiss

Alpine Club is an all-the-year-round club. In each of the different sections, excursions are planned at moderate rates of expense at all times of the year, and notices are sent by postal card to the members, inviting them to join; in the summer these excursions may be to the highest neighboring mountains. When the winter comes their range is naturally restricted to less dangerous heights. I belong to the Geneva section, and there is hardly a week in the year that I do not receive at my editorial desk in dusty New York a bidding from the Swiss Alpine Club to climb the heights around Lake Geneva, or to wander far up the ravines that approach Splügen, or to cross a high glacier and cut steps in the ice, or to find my pathway around some blue mountain lake. These postal cards bring a breath of mountain air with them, and are worth many times the membership fees.

When the ascent is to be a difficult one, it is always named as such in the invitation, so that no member may undertake what is beyond his strength. When the climb is perhaps one that implies risk or danger this, too, is clearly specified beforehand; and the section committee reserves to itself the right of passing upon all applications to any excursion which requires an arduous mountaineering. It is a wise and needed precaution, for even among the cautious Swiss there will be found young enthusiasts who are ready to over-do themselves or to take unwise risks. And in spite of all precautions accidents happen sometimes. A few years since I lost an excursion as the result of a fellow member's misfortune. I had found my way to a mountain hamlet in Savoy, prepared to join the annual trip; that year it was to the heights and solitudes of the Chartreuse, one of the most beautiful and lonely mountain regions in France; for this time the club over-stepped the geographical boundaries of their own country. When I reached the quiet village I found no fellow-members there but only a telegram stating that on account of a fatal accident two days before, the club's excursion for the year would be given up. One of the younger members had slipped and fallen in what is ordinarily called a perfectly safe place. Losing his foothold at the summit of a very steep, grassy slope, he had fallen two or three thousand feet to the bottom of the valley,—literally rolled to death. This sort of accident

occasionally happens to novices, but not often to the more practised Swiss. So the excursion was postponed to the disappointment of hundreds of members.

What is the expense of belonging to this delightful club? In London or in New York the average expense of the good clubs is \$140.00 for admission, and \$50.00 annual dues. The cost of joining the Swiss Alpine Club is—what do you think?—\$3.00; then you pay \$1.00 yearly for the general club dues, and \$2.00 for the cantonal fee. Thus for \$3.00 a year one enjoys all the privileges of membership. I think it would be hard to devise any form of mathematical equation which would express the relative advantages in terms of money between the two kinds of club. Certainly the Swiss Alpine Club is open to none of the objections which are brought against most other clubs.

What joys are so exalting, so invigorating, so intense? Similar clubs have been formed in France and Italy, and have done excellent work in recent years, especially in the regions where those two countries divide the summit of Mont Blanc upon their boundary line. That summit, as all of my readers may not remember, has not been within twelve miles of the Swiss boundary line since the cession of Savoy in 1859. All these questions of boundaries and area interest the club and are the occasion of interesting monographs or books. A recent number of a periodical which they publish, the *Echo des Alpes*, gives, for instance, the area of the entire Alpine system as divided among the different countries. The first question in such a determination is to say what the boundaries of the true mountain system are. Where does the foot of the mountain cease, and where does the plain begin? M. Levasseur, in his book on this subject, limits the Alps by the quaternary formation which surrounds the mountain on nearly every side; and the Alpine region thus defined, means an area of 216,000 square kilometers, or 82,858 square miles. Of this area, 80,000 kilometers are in Austria-Hungary; 50,000 in France; Switzerland and Italy have 40,000 apiece; and Germany about 8,000; more than a third of the Alps are thus in Austria-Hungary. The *Echo des Alpes* is a journal published by the Club four times in the year, in numbers of sixty-four pages. Its subjects are all that relate to the geology, the history, the exploration, and the bibliography of the Alps; and a full department of notes

gives information relating to the last routes, ascensions, and accidents when they occur. It is illustrated with Alpine views, and a fine map occasionally goes with the number. The club also publishes another quarterly in German.

One function of the Club I must not forget to mention. It is the improvement of certain difficult mountain routes and the establishment in remote and dangerous places of cabins where fire and food can be provided. Their object is not to make all Switzerland easily accessible, as the English club has sought to do with the most difficult peaks, by providing hand-rails, clamps, and ropes, but rather to prevent some of the discomforts and dangers that come even to the experienced tourist sooner or later. The mountains of Switzerland are the most attractive and picturesque in the world, and they have also the advantage of being, for the most part, within easy reach of the comforts of civilization. It is a very long climb that takes one more than twenty-four hours away from a hotel; few do as much as that. This combination of the consummate splendors of Nature with proximity to comfort and the security of your inn is hardly found elsewhere in the world, and it adds much to the attractiveness of this mountain region.

The French and Italian Alpine Clubs following the lead of the Swiss, are also active, though their membership is smaller. They have a similar organization and make similar tours to their larger and lesser summits. In eastern France I once joined an excursion to the mountains of the Vosges; and from the summits of the Ballon d'Alsace the vast ranges of the western mountains of Switzerland were clearly visible, as from no part of Switzerland itself. At the distance from one hundred forty to one hundred eighty miles the great mountain ramparts stood outlined against 60° of horizon, drawn in most delicate blue and gold, more like films of color or visionary forms than authentic outlines of rock and snow. The Swiss mountains are visible at certain times and in certain directions at great distances toward the west.

From the observatory of the Puy-de-Dôme, in the mountains of Auvergne, during the clear days of winter, Mont Blanc can be seen like a pink film upon the horizon at sunrise, at a distance of one hundred ninety-three miles. Whether this is the farthest point of visibility I do not know. I proposed the

question to members of the club some little time ago but I have heard no farther point of visibility named.

I must not close without saying that the cultivation of national sentiment, the love of their own country as well as the Alps, is a

view and indeed an object of this Club's existence. They have combined principle, sentiment, and pleasure in a way that few other organizations can boast. The Swiss know that the purest pleasures may also be the most intense.

EXPLOSIONS AND EXPLOSIVES.

BY PROF. LA ROY F. GRIFFIN.

Of Lake Forest University.

THE importance of explosives to modern civilized life in times of peace is hardly realized. Originating with the discovery of gunpowder, at a period so ancient that it is lost in obscurity, the use of explosives was at first confined to war, in which they quickly replaced all other means of attack and defense. Armed with a tube of a few pounds weight, in whose chamber is stored the energy of a few ounces of powder and a lead bullet for a missile, the merest child can strike harder and farther than the mightiest warrior armed with battle-ax and clad in harness of steel. That discovery revolutionized war, and thence the march of progress has continued until it is safe to predict that in the near future the monster will perish through the sheer impossibility of withstanding the havoc which explosives deal. The temerity of any nation that ventures to risk attack with guns carrying quarter ton missiles thirteen miles and shot loaded with dynamite, will be repaid with utter extinction. Peace finally will reign universally because men can no longer fight. The cost of war will banish war.

Alongside of these warlike innovations, changes no less real and involving even more momentous results have come into modern life through the use of explosives, peaceable it is true, but no less far reaching because silent and unnoticed. How much coal and iron could have been lifted from the bowels of the Pennsylvania mountains had there been no gunpowder? When would the Hoosac Tunnel have been completed had there been no nitro-glycerine? The engineering skill that can carry a railroad winding around the side of a mountain peak, belting the solid rock with band above band of rigid steel until a passage is carved for the engine across the backbone of the continent, manifests marvelous wisdom in planning and the high-

est skill in executing. But lacking high explosives, these astonishing creations were fancy's nightmare, or the ravings of a disordered brain; the rocks would have defied the carver's touch. Only these have sufficed to rend the solid rock and open the safe passage for the floating palace where erst was seething foam. Truly peace has its victories as well as war. Dynamite and its congeners have proved its efficient weapons, and prosperity has hung as truly upon the products of the investigator's laboratory as upon the farmer's broad acres or the movements of the marts of trade.

Two classes of explosives are in common use, well represented by gunpowder and nitro-glycerine. The first class is called deflagrators. They are made of solids mixed together that burn into gases. Thus gunpowder consists of charcoal mixed with potassium nitrate, commonly called saltpeter, and some sulphur is usually added because it develops more heat in burning. These must be burned to act as explosives.

Detonators, as nitro-glycerine, are compounds that are either solid or liquid at ordinary temperatures but are readily changed to great volumes of gases, when properly acted upon. Sometimes they burn; commonly they are affected by some external force which strikes a blow. Most of them act with extraordinary power because the change to gases goes on in all parts of the detonator at the same instant.

Deflagrators commence to burn at the place where the flame is applied and so they act much more slowly. Detonators turn to gas so suddenly that objects with which they are in contact have no time either to transmit any part of the force developed by the change to more distant parts or to move away, so they are crushed and even powdered. But deflagrators act so much more slowly that bodies

in contact are torn apart along the weakest portions; sometimes moved away bodily. The two kinds of explosives are suited therefore to different kinds of operations. The quarryman and miner must content themselves with the deflagrators. The engineer, whose only aim is to remove the obstruction, while he cares nothing in what condition the materials are left, can crush and pulverize the hard rock with the more effective detonators.

Such, then, are the general principles upon which explosives are based. Their structure and action involve many points of great interest. A very simple experiment, and one which is familiar to many, makes the principle of deflagration clear. If a crystal of saltpeter is heated upon a piece of charcoal, it melts quietly, but as soon as melted, the drop of liquid takes fire and burns violently, making a hole in the charcoal, spattering much, and throwing off a great quantity of smoke. If the charcoal is pulverized and mixed with the dry saltpeter, it can be lighted with a match and it will burn brilliantly. These cases are not like our common fires, which must have air or the fire will go out. The charcoal and saltpeter burn as readily where there is no air. And yet the gas made by the burning charcoal is the same as that made by our common fires, carbon-dioxide, commonly called carbonic acid. It is the product of the complete combustion of the charcoal, a compound of charcoal and oxygen. In ordinary combustion the fire takes the oxygen from the air; in burning the charcoal and saltpeter, the gas cannot come from the air because the substances burn the same where there is no air. So the oxygen must come from the solid saltpeter, and the rapidity of the combustion arises from the fact that they unite as solids without taking time for the oxygen to turn to a gas.

Gunpowder is made of the purest materials, and the operations are conducted with the utmost care. The charcoal is prepared by charring willow wood carefully in iron retorts. All of the ingredients of the powder are carefully pulverized separately, and moistened. They are then mixed in about the proportions of seventy-four parts of saltpeter, thirteen parts of charcoal, and eleven of sulphur, and ground together by large stones revolving slowly until thoroughly mixed. During this operation, the powder is kept carefully moistened to avoid explo-

sion. At the end the fine meal powder is pressed into a cake and allowed to dry. Then it is finally again moistened, broken up into small grains, and polished with a small amount of graphite to prevent it from absorbing moisture from the air. The size of the grains determines the rapidity of the burning when the powder is exploded; sporting powder being the finest, while that used in the monster Krupp guns is pressed into cubes or octagonal prisms nearly an inch on each side. All of these burn alike and produce carbon-dioxide, nitrogen, and a few other solid and gaseous substances. A large part of the force of the explosion arises from the heat produced, which commonly expands the products to double the volume which they would otherwise occupy, sometimes more.

Nitro-glycerine, the typical detonator, is made by treating glycerine with a mixture of nitric and sulphuric acids, the whole being cooled by ice. The product is an exceedingly unstable liquid. A slight shock causes its complex molecules to break up into gases, and the change takes place in all parts at the same instant. If lighted, it burns somewhat slowly and gives off a great amount of gas. But if struck a blow, as by exploding a fulminating cap, the whole mass instantly turns to a gas. If the temperature is raised sufficiently, the same change occurs. A few other substances detonate in the same way, of which gun cotton, made by treating cotton or wood fiber with mixed nitric and sulphuric acids, is the most important.

Dynamite, rend rock, and other common solid detonators, are simply nitro-glycerine absorbed by some solid, so as to be handled more readily. Infusorial earth is the best absorbent, but being somewhat scarce, sugar is often substituted, and sometimes even sawdust.

So far, the substances considered have been either solids or liquids. But there are many explosions, and some of these the most dangerous, where one of the substances is a solid or a liquid and the other a gas. Perhaps in the latter case, the liquid may sometimes evaporate first and the actual explosion be produced by a mixed gas and vapor. The most important of these are the so-called dust explosions and kerosene explosions.

Dust explosions have been numerous and startlingly violent. The first to attract attention was a dust box attached to a flouring mill

at Lawrence, Massachusetts. The next of special interest occurred in a candy manufactory on Barclay Street, New York City, and was so violent and destructive that for a long time it was supposed to have resulted from nitro-glycerine stored there, because nothing else was then known which could produce such destruction. The most destructive of all occurred at Minneapolis in May, 1878, when three large flouring mills exploded in succession, with terrific violence, one of them with sufficient force to send sheets of iron, forming the roof, so high into the air that they floated two miles before they fell. The latest of these was an oatmeal mill in Chicago, only a few weeks ago, and it destroyed the building. So these occurrences have been sufficiently numerous to keep the public well informed concerning the danger, though very few understand clearly the conditions involved. And yet they are so simple that there need be no recurrence of such disasters except through negligence well-nigh criminal.

If a large log of dry wood is set on fire, it burns slowly for a long time and the heat produced passes off so gradually that very little attention is paid to its presence. The fire is confined to its surface and that surface is small compared with the mass. Split the log into cord wood and the surface is very much increased. Now pile it up and set fire to it, and it burns fiercely because the fire can reach a very large surface. It is consumed in a very few hours and the heat produced appears to be intense because it has so much less time in which to escape, though in fact it is exactly the same in amount as before. But if the same log is cut into shavings and these scattered through the air, the heat becomes intensely fierce, for the surface is so enormously increased that the air reaches the whole mass in a very few minutes. Carry this process one step further and grind it to the finest dust and scatter this through the air so that each particle is surrounded by air, and yet the particles are near enough to one another for the flame to pass, and the whole burns instantly, and the heat appears to be enormous. In fact an explosion follows that no materials built into walls can possibly resist. And yet the whole cause of the explosion lies in the heat produced, for the gas made by burning the powdered wood, carbon-dioxide, occupies the same space as the air did before the burning.

The illustration shows precisely how dust

explosions arise. They are all alike in principle and the conditions are simple. These conditions are :

First. That the powdered substance shall contain an element capable of uniting with the oxygen of the air and producing a new gas. The element which commonly does this is carbon, and the product then is carbon-dioxide. Of course the purer the carbon, the more powerful is the explosion. Hence, fine coal dust in the coal mines is extremely dangerous and is responsible for many a miner's life. Wheat flour, starch, oatmeal, dust from cleaning the wheat in preparation for grinding, the very fine dust which comes from finishing and polishing wood as in a furniture factory, all contain the requisite carbon. So they will all produce explosions provided they become properly mixed with air. Usually this occurs only in some place where there is considerable draft, as when an exhaust fan is used to take the dust from the middlings-cleaner in a flour mill or the fine shavings from a planer.

Second. The second condition is that the substance produced by the union of the two substances shall be a gas. If it is not, it usually falls harmless, for no greater space is occupied by the product than by the original substances. But it must be observed that the heat produced may sometimes be sufficient to make the substance a gas even when it is a solid or liquid at ordinary temperatures, or even to expand it and produce an explosion.

Third. The third condition is that this fine dust be so mixed with the air that each particle can burn instantly and yet can communicate the flame to the next one. Then the time between the beginning of the combustion and the end becomes too short for common measurement, and the heat produced has no time for gradual escape, but exerts its whole effect in expanding the gas formed. Even in this case, the nitrogen, which forms four-fifths of the air, acts as a damper and the explosion is not nearly so violent as it would be if the air was all oxygen.

Fourth. The fourth condition seems to be that these dust mixtures must be lighted by a flame. In all experiments tried on a small scale, all other means of lighting have failed. But the flame may be produced directly or by mechanical means. Thus in one case, that of a dust box attached to a small flouring mill, the explosion appeared to have resulted from the match of a tramp who attempted to light his

pipe, oblivious to his nearness to the dust box. In another, it appeared to arise from a stream of sparks produced by a bit of steel between a pair of mill-stones. Even the friction of a shaft upon a bearing which has run dry may produce sufficient heat to light the particles of dust next itself and thus produce the necessary flame. But probably the lights of careless workmen are by far the most prolific cause of these explosions. The violence of the explosion is proportioned to the carbon in the materials, other substances acting as dampers to check the action. Too great care cannot be taken to avoid this source of danger. No lights of any kind should be allowed near such a mixture of air and dust, not even lanterns, for no one can tell exactly when the dangerous proportion has been reached, and the only way of safety is to avoid the possibility of danger.

One other class of explosions remains for consideration, that resulting from the union of two gases. In these days of illuminating gas, natural gas, and gasoline stoves, they are altogether too common; and while some few of them involve conditions as yet unknown, most of them must be ascribed to pure carelessness. In principle, they are precisely like dust explosions. The gases mix by diffusion, one passing into the spaces between the particles of the other. Then a spark causes combustion to take place and a new gas is formed, while heat is given off as before. Kerosene is the most common source of the danger. This is a liquid at ordinary temperatures, and a perfectly safe liquid, for a lighted match can be thrust directly into it and the flame is extinguished. But it readily turns to a gas. Indeed it gives off vapor

slowly at all temperatures, and this vapor diffuses through the air very readily. So when a lamp or can is only partly filled with the liquid, the air above is soon mixed with the gas, and the mixture will explode with destructive violence. The danger does not lie in the kerosene but in the mixture of kerosene and air. A full lamp or can cannot explode, and the remedy is simple. Lamps must be kept properly filled and cans must be kept away from fire.

Now this case is typical. Any gas which contains a proper amount of carbon, or any other element that can unite with the oxygen of the air, will produce an explosion when properly mixed with the air. Common illuminating gas very often does this. Natural gas, now being introduced into many houses as a source of heat, is especially dangerous, if it ever leaks into the air. Sewer gas, that is gas produced by decomposing animal and vegetable substances, is just the same. All of these must be guarded carefully. The vapor of ether and similar volatile liquids will explode in the air with terrific violence. Very often some one of these gases escapes into the man-holes of the electric subways of large cities and then mixes with the air. As soon as about six per cent of the gas is present, it explodes with the first touch of flame. This may come from a match or the pipe of a workman or from an electric spark. In two or three instances, no source of either has been traced, the man-hole being closed and all the wires disconnected; but it seems probable that in this case, some of the wires acted by induction and so produced a spark. This source of danger must then be carefully removed. Sufficient care will remove all danger from explosions.

CANADA AND IRELAND: A POLITICAL PARALLEL.

BY J. P. MAHAFFY, M. A.

Of Dublin University.

IN a recent visit to Canada I found the whole Protestant English population in a ferment concerning the recent action of the local parliament of Quebec in the matter of the Jesuits. Even before I touched land, I had been entertained every day on the ship by discussions about this matter, and it excited my interest by reason of many analogies which were easily seen to the Irish problem. Further study confirmed these first

thoughts, but it was not till I had consulted Mr. Goldwin Smith, and found that his views broadly coincided with those I had formed for myself, that I thought of putting the case in print to the readers of *THE CHAUTAUQUAN*.

Here is the Canadian problem in brief form. When Quebec had fallen after the victory of Wolfe, and the French king ceded his American possessions to the British, the King of England, by a formal treaty, secured to the

French inhabitants of the provinces the right to use their own language and practice their religion—a grave blunder in policy, as the result proved. There was indeed no talk of recognizing the Jesuits, then a powerful and rich body in Quebec, owing to their brilliant missions, which Mr. Parkman has so ably described in our own day. Their property became crown property, and afforded the ground for the barracks and other public offices of the new government. But the Roman Catholic Church using the French nationality and language, undertook to sustain the separation between the French and English settlers. They did all they could to keep them apart. They encouraged early marriages among the French, and so succeeded in keeping the whole of that barren and struggling country populous and Catholic. Every little village on the lower St. Lawrence shows an enormous Catholic church; a large part of the people's earnings has been absorbed by the clergy.

So things went on until the recent change, by which the British possessions in Canada ceased to be a colony, and became a dominion with independent government. A central parliament was established at Ottawa, to which and to the governor-general was given a *political veto*, in case the provincial parliament in Quebec, Manitoba, Ontario, etc., passed measures contrary to the interests of the Dominion. Each of the several sections had a legislature not unlike that of the several states in the American republic, with control over their own affairs. In fact each province obtained Home Rule.

In most of the provinces there is a clear preponderance of English Protestant settlers, but in Quebec, owing to the causes already stated, the French Catholic majority returned almost all the members. Even the neighboring province of Ontario is seriously threatened by French immigration, as these people live at a lower rate, and on poorer land than their English neighbors. But they can vote all the same, and it is there that their numbers tell with fatal effect. The Roman Catholic element already disturbs the politics of Ontario considerably, for politicians are bribed by the hope of its support to favor in various ways this aggressive and dangerous religion.

But what has the clear majority in the legislature of Quebec done? There we find no further temporizing. The establishment of Home Rule was followed promptly by an act

bringing back the Jesuits to Quebec, and giving them a formal charter as a corporation under that state. Even this was not enough. The land abandoned by the British troops and officials was lying idle in the city, because the Catholic bishops had taken care that no one should bid for it. Now, during this year, an act was passed re-endowing the Jesuits with what was called their ancient property, and handing back to them some \$400,000 under the pretense, hardly concealed, that the confiscation more than a century ago, was by a foreign and hostile power, and therefore to be rescinded by faithful French subjects of the pope.

There was indeed a quarrel among the bishops and the Jesuits as to the real ownership of this property. But it only resulted in the Pope of Rome being formally invoked, with the consent of the Quebec legislature, to settle the dispute, and to determine the allocation of public property in the Dominion of Canada.

The small Protestant minority in the House at Quebec protested, but of course in vain. They received as a sop a small sum (in proportion with their number) to be applied to state education in the province.

Since these events happened, the Protestants have taken alarm, and protested against such a proceeding; but when the question was referred to the Dominion parliament, both the prime minister, Sir J. MacDonald, and the leader of the opposition, fearing the results of unpopularity with Roman Catholic voters, would not fight the question, refused even to propose the veto, which by the way, had been specially intended by its framers to meet this very case, and so the governor-general was of course powerless.

It appears then that in twenty years of Home Rule in Canada, the Roman Catholic majority has already advanced to the point of re-endowing the Roman Church from public property. What they are doing, and have done, to oust the remaining Protestants from Quebec I have not ascertained. But I am quite sure that this result is constantly before their eyes. Nationalism and religion are banded together to extirpate if possible the hated minority of the conquerors.

It is a commonplace to say that historical analogies are misleading, and that no nations are really under the same conditions and circumstances. But there is no use or meaning in studying history, ancient or modern, un-

less there is such a thing as learning from one case what is likely to happen in another. The only question of vital import is to find solid analogies, which touch the root of the situation, and not mere superficial likenesses. Now in this case, I am confident we have a real and instructive analogy. The present condition of Ireland, and the prospect of what would happen were she to obtain Home Rule, are so strikingly similar to the history of the similar development of Quebec, that it is most important for American citizens to consider and weigh it attentively. Here are the main facts, in their simple and incontrovertible nakedness. The French of Canada and the Irish both came long ago under the power of the English, who either would not, or could not, assimilate or Britianize them, so that through the bond of a separate language (still surviving in Canada, rapidly dying out in Ireland) used for hostile purposes, by the Church of Rome, a strong anti-English nationalist feeling has been maintained in both countries. Some of my readers might imagine that the separation of language was the main cause of this. I say it is not, and that without the organization of a hostile religion it has but little effect. Look at the case of the Scotch and Welsh. Both have been assimilated and brought into real union with England, though the Welsh language is almost as dominant in Wales as the French in Quebec, and the Scotch Gaelic is not decaying faster than the Irish language. But in these latter cases the Church of Rome has no hold upon the people. They are Protestants, and therefore all disloyalty to England has long vanished. And the same facts will show that a separation in race will have little effect if it be not re-enforced by the same powerful organization which teaches men to look to Rome for directions in all private as well as public affairs.

Let us proceed to other analogies. The French Canadians inhabit a large province full of poor land, as the Irish do a country full of bogs and mosses, in both of which cases the people have learned to be content with poor living and low wages, and therefore marry and produce limitless families without any reasonable prospect of providing comfortably for these children. In this way they easily come to outnumber their more luxurious, more thrifty, and more cautious neighbors. In this really immoral way of living they are countenanced and encouraged in both cases by their priests, whose power rests on num-

bers, not on education or intelligence. Nay, in both cases the Roman Catholic priesthood have always endeavored to shackle and limit education, and to put down all independent thinking or free discussion as hostile to their religion. By these means, the Roman Catholic priesthood have obtained paramount influence in all nations of divided creed, where political power has been intrusted to the popular vote. The preponderance in both Quebec (as a province) and in Ireland is about the same, and of the same kind. In both countries the Protestant minority has the energy, the capital, the real substance, of the country in its hands. Wherever in such a country trade or shipping flourishes, this is due to the energy and honesty of this minority. Thus the trade of the province of Quebec has left Quebec and migrated to Montreal. All the great ships coming from Europe now travel on through a troublesome and narrow route twelve hours further past Quebec. The matchless position of that splendid port has not saved it from the fate of all sacerdotal despotism. So in Ireland the main business of the country has taken refuge in Belfast, a Protestant town, and the trade which still flourishes in Dublin is chiefly (I suppose 85 per cent) in the hands, or under the management of the Protestant minority.

But what can this energy avail, if England treats Ireland as Canada has treated the province of Quebec, and gives her over to the absolute control of the ignorant and thriftless Roman Catholic majority, guided by their priests in the direction of jealous obstruction, or even persecution, toward all that is Protestant in the land? Already the Irish Roman Catholic bishops are beginning to claim control in matters of education. Already they are threatening to take into their hands that great seat of learning, Trinity College, which, as Mr. Gladstone himself said to me in Dublin, was the one thing which had saved the enlightenment and the education of the better classes in the darker days of Irish history. Already they vow that they will everywhere replace Protestant officials by people of their own persuasion, not because they are abler, but because they are Catholic—in other words, because these new hands will be subject to the papal system. And will any of my readers believe that they will be just to the rich minority in the matter of taxation, in the regulation of private enterprise—in fact in any exercise of personal liberty?

When these fears were clearly expressed in the English parliament and press, the answer made by the advocates of Mr. Gladstone's bill was this: that in framing a Home Rule bill for Ireland great care had been taken to reserve a veto on all Irish proceedings for the imperial house at Westminster. By this means the rights and liberties of the Protestant would be secured. The recent events in Canada have shown what is the real value of such a veto. On the very first occasion, on the very first test question when it became the duty of the Dominion parliament to arrest the inroad of the Jesuits, and to prevent public property in Quebec from being handed over to an irresponsible and dangerous organization within the Roman Church, or what is nearly the same thing, to that church itself, what did the central parliament do? It abdicated its functions, it resigned the Protestant minority into the hands of the majority, and why? Because at the moment, Catholic votes were to be captured for the next election, and because leading politicians prefer the chances of office to the unpopular satisfaction of securing the future interests of the population whom they profess to protect from harm and govern in the interests of public weal.

Does any one imagine that English politicians, even the greatest and the most illustrious, such as Mr. Gladstone, would not be tempted by the lust for immediate power to abandon the Irish Protestants in the same way, to their adversaries? For this new sort of tyranny has a constitutional appearance; it is done by votes and bills, not by the faggot and the stake; it is done by boycotting, and not by the rack. But the

principle is the same, and the results are not less disastrous.

In the case of Ireland, there is no possibility of settling this great problem, except by the gradual enlightenment and calm patience of the imperial parliament—or by a civil war in Ireland. If the Protestants of Ireland are compelled to take up arms, the majority know very well what the result will be. A bold and fearless minority, fighting for their liberty and for conscience' sake, will defeat hordes of slaves, spiritual or otherwise, vastly their superior in numbers. That conflict has often occurred, and always with the same result, and on this point there is little fear, unless it is for the shocking cruelties, the bloodshed, the devastation, which a civil war brings in its train.

In the case of Canada, where the prospects of such a struggle are now freely discussed, and where the results, good or bad, of a civil war would be the same, there is this important difference. The United States is a powerful and still a great Protestant power, to whom in the last instance an appeal is possible; and in the opinion of the best judge I could consult in that country, every argument leads us to conclude that this will be the outcome. Annexation with the United States is not popular with either nation, but it may become necessary in the interests of Protestantism.

But what will be the result, if in the meantime the Church of Rome leavens the states, and saps the foundations of this free republic?

This opens up a great sister problem, which I have neither the knowledge nor the space to discuss. Let my readers undertake it for themselves.

THE FUTURE INDIAN SCHOOL SYSTEM.

BY ELAINE GOODALE.

THE day-school idea in Indian education marks an advance in thought over the boarding-school idea, notwithstanding that the latter is much the more complicated and expensive system. The day-school is simple, cheap, of almost universal application, and in harmony with American institutions, but it has taken us nearly as long to realize all this as it took us in the first instance to appreciate the fact that Indian children can be educated.

People of sense are no longer content to parade the results of one or two successful institutions,—to demonstrate in a public and rather sensational way that Indian children can learn everything which our children learn, and in nearly as short a time—they insist upon a practical application of the discovery, upon an effective, orderly system of schools which shall reach, not one-tenth, nor one-third, but *all* Indian children between the ages of six and sixteen, or eighteen would be a better limit.

The idea that in order effectively to train these children they must be caught and caged in a boarding-school, either on or off the reservation, where they are forcibly detained, washed, dressed, civilized, and compelled to work and to speak English, is a mistake. It is a fallacy that has been widely believed and taught, but it is based upon false notions of the hopeless savagery and degradation supposed to exist among the Indians to-day, and it is gradually giving way before a more enlightened understanding of the teachableness and progressiveness, not only of the children but of the adult Indians.

Closely connected with this theory in many minds is that of a general relapse of educated Indians upon their return to the old surroundings. General Armstrong touches the root of the matter when he says, in his recent report of a visit to the Sioux Reservation, "Not one Hampton graduate has 'gone back to barbarism.' When all the Indians are doing so well, there is not very much barbarism to go back to!"

It is true, as the Hampton school claims, that most of its returned students in Dakota are "doing well." It is equally true that hundreds of young men and women who have never been to any school, or only for a short time to a day-school on the reservation, are working side by side with them and doing equally well. It is true that at Lower Brulé Agency, for instance, all but two (I believe) of the Hampton students wear "citizen's dress"; it is equally true that two-thirds of all the Indians at that agency, young and old, wear it entirely, and the rest wear it in part, or at least a part of the time. These young men and women do not, and they will not, no matter what habits they may have learned at school, live or dress or work much better or differently from those about them. The girls who have taken pride for years in their neat hats, jackets, gloves, and shoes, drop all these in favor of a shawl worn over the head, even in church, and refuse to wear a hat when it is given them. Why? Because none of the other women wear hats or jackets and they would be unpleasantly conspicuous. Does any one suppose that one in a hundred of these young people would wear our dress at home if they were alone in wearing it? How many of us would have the courage to assume a foreign dress which would make us ridiculous in the eyes of all our friends or relatives? Very few, as we all know.

It is the same with their work. It is considered no disgrace among the Indians here for a man to cultivate the ground or to hold a Government position; quite the contrary. It is esteemed an honor and an advantage, and brings very practical benefits. These students accordingly work a little—just enough to eke out their rations and buy the few clothes or the little furniture which they want beyond that which the Government supplies. There is scarcely one who works steadily and diligently with the view of building up a competency. Why not? It is not necessary, and it is not the fashion. Nevertheless, they are "doing well" if they work even a quarter of the time, and it is so considered. They would *not* work if nobody else worked, and if they were hooted at for so doing.

As for the struggle with heathen customs, Indian marriages, Dakota medicine, and so forth, it is often severe and some conquer and others fail. The whole body of Christian Indians, whether they have ever been to school or not, strive equally to resist these practices, and are equally successful. The truth is, that while the schools and the philanthropists have been busy separating the Indian youth from his "savage surroundings," and making a man of him in three or four years, Christian missionaries and various other civilizing agencies have been hard at work elevating the surroundings, and making men of his father or brother without their having left the reservation for a single day.

The general level of Indian life is so much higher than it was even a few years ago, that the returned student can dress neatly, live honestly, and work well, *up to a certain point*, without making himself conspicuous or exerting himself much beyond his neighbors. *Beyond that point scarcely one can be made to go*, even under the most favorable and encouraging circumstances.

These conclusions are the result of two years' close observation and hard-won experience on the ground, and from them I gather that it is better to raise the mass a very little than to lift the individual to an artificial height, from which he is sure to fall—to adapt himself, as we all do, to his circumstances, and to find a level not very much above that of the tribe.

The next point is, what is the most effective way to raise this general level? Undoubtedly it is to be done by schools and

missions among the people, and the closer the school or mission gets to the people, the better it can do this work. The agency church, with its service on Sundays, is good, but the camp-to-camp, house-to-house, day-by-day labors of the missionary are better. The agency boarding-school is good, for the parents can visit it often and the children can make frequent visits at their homes; but the camp-school among them, in their homes as it were, is a part of their actual daily life and makes that life something permanently richer and of more worth.

In estimating the dangers of a "relapse into barbarism" on the part of the educated young Indian—dangers real enough, but greatly exaggerated, so far as this reservation is concerned, owing to the exaggerated ideas prevailing of what that barbarism is—in considering these perils, I say, how singular that it has not been observed that in the day-school there is no probability, almost no chance of a relapse! The habits of civilization are formed in the very midst of the dreaded "home surroundings." The children withstand these "pernicious influences" day by day and are never removed from within their reach for more than a few hours at a time and there is no temptation to "go back" at one time more than another, no sudden plunge from a life surrounded with every good influence and guarded by enforced order and discipline, into a life perfectly free, almost to lawlessness, where labor is unnecessary and discipline unheard of. Such a plunge, however inevitable it may be, is unnatural and exciting, and it is a wonder that the crude and immature minds which are constantly taking it get so little harm from the shock as they seem to do. The reaction from *rule*, backed up by actual force, is tolerably strong, and shows itself in minor matters of dress, etc., as well as in some more important things. This natural reaction may be a reason why girls who have been for years at an Eastern school will not wear hats on the reservation, while the girls attending the day-school, in the first year wear them on all occasions without compulsion, and even in the absence of the teacher, and more or less during the long vacation. It may influence the noticeable number of runaway matches, which are not marriages, among lately returned students. These and similar phenomena may be simply due to the difference which I have attempted to demonstrate be-

tween the pupils of the day-school and those of the boarding-school; that the former have never been removed from the common temptations of their life, nor under absolute and constant control, and therefore become gradually stronger to resist these temptations and to keep up the civilized dress and habits which they have adopted *in their own homes* and with the consent and almost always the co-operation of their parents.

The next argument in favor of the day-school is its cheapness. The reports of the Commissioner of Indian Affairs show that, while there is great disparity in this respect among schools of similar character, owing chiefly to bad management, education costs on an average about one-third as much *per capita* in the day-school as in the boarding-school. With improved facilities in the former—such additions as are needed and which I shall presently specify—the proportion might be raised to one-half. This disparity is due, not to better teachers or better facilities for education, but to the added expense of feeding and clothing the pupils. I am not now referring to such schools as Hampton, where there are of course far wider opportunities for those who are far enough advanced to appreciate them, and even in the primary classes superior advantages in the shape of trained teachers and good apparatus, and where, also, voluntary gifts from the people supply these extras, and *not* the Government, which barely feeds and clothes the children. I am speaking of the average Government boarding-schools, as I have seen them on the reservations. The teaching is elementary, the apparatus incomplete, the teachers often incompetent. Roughly speaking, the cost of *education* is about the same as in the day-school—the cost of food and clothing doubles or trebles it. I have taken no note of the first cost of building, which for the day-school is counted by the hundreds of dollars, for the other by thousands—even supposing the same number of pupils to be accommodated. Now let me suggest a question. Is it necessary for us to feed and clothe the rising generation of Indians twice over? We are already issuing to them, under treaty stipulations, a fixed amount of food and clothing annually. We are also bound by treaty to give them an education. We are not under any obligation to *maintain* them in schools at large additional expense, nor is it essential to their education that we should do so.

Economy should not be the ruling factor in determining our Indian school system. It is my purpose to prove that the day-school can readily be made nearly or quite as efficient in the elementary training of Indian children as the boarding-school, at half the expense. It is a fact that a limited and indeed a lamentably insufficient appropriation is yearly made by Congress for Indian education. While I would not question the evident propriety of continuing to support such good schools as are already established, I believe that in directing the expenditure of further sums, it would be better to educate one thousand children in day-schools, than five hundred in boarding schools, or to place *all* Indian children of school age under training at home, than to train half of them in distant institutions and leave the other half to grow up neglected and ignorant.

It will now be necessary for me to explain exactly what I mean by such a day-school as I would advocate. I have never seen one which came up to my standard—two or three approached it—most fell hopelessly short. The scope of these schools should be enlarged to include a variety of industrial training—gardening, and whatever practicable elementary carpentry for the boys, cooking, sewing, laundry work, and general housework for the girls. In order to do this, two capable teachers should be engaged for each school, of whatever size, and all schools with an average attendance below a certain number—say fifteen—should be discontinued. The school buildings should be enlarged by the addition of a good-sized kitchen or "industrial room," for cooking, etc., cannot be taught in an ordinary schoolroom.

The needed tools and utensils of course should be furnished, and the schoolroom properly furnished with good apparatus for primary teaching—such as abundance of blackboards, charts, pictures, simple kindergarten material, an organ, a clock, etc. (Strange to say, I have seen many Indian schools without any of these necessities save *one* small blackboard.) Rations of simple but nourishing food—not exclusively hard-tack and coffee—should be furnished for a midday lunch.

The children's annuity clothing should be issued to them through the teacher, who of course teaches and requires the girls to make up all material properly. This issue should be somewhat generously apportioned, for otherwise each girl would not receive flannel

or gingham enough to make a full dress. In asking for these latter, I am not contradicting my former statement that we need not feed and clothe these children, for this minimum of provision for their bodily wants will serve to teach them the arts and habits of civilized life, to all intents and purposes as well as if we gave them three meals a day and two or three suits a year. The influence of teachers and children upon the parents will gradually improve their lodgings, food, and habits in their own homes, and their parents will buy and make for them civilized clothing when the school clothing wears out. I think it is safe to say that these improvements will bring the cost *per capita* from about one-third to one-half the annual cost of each child in the boarding school.

The buildings will not cost nearly half as much. The present limit for a day-school building is \$600, including teacher's residence. It ought to be \$1,200. I have only to add that two years ago this "Industrial Day-school" was a theory—to-day it is an accomplished fact. I have not made my school as good as it ought to be made, but I have established and carried on for two years, with the efficient help of lady missionaries and gifts of money, etc., from Eastern friends, a day-school, in which all the common industries are successfully taught, while the children understand and in school and home speak English, where the girls make and wash and iron neat dresses, underclothing, white aprons, and collars, and also wear hats, cloaks, and shoes, where the boys wear short hair and citizen's clothes. Most of the changes which I have suggested have been tested and have succeeded in my school.

I have had previous experience in a large boarding-school, and I have carefully compared the attainments of my pupils with those of boarding-school children. I believe that, under the same conditions, they are fairly equal with the exception of greater readiness to speak English on the part of those who are required to use it all the time. My children, however, really *know* almost or quite as much English, and they will *use* it when it becomes necessary for them to do so. If the Government will provide the things I have mentioned, no private or benevolent aid will be needed to carry on similar schools everywhere, in every settlement large enough to furnish the required number of children; or in farming districts or sparsely settled places let the

schoolhouse be placed at a central point or *between* settlements, like white district schools. All children within a radius of six miles can properly be required to come—they have plenty of ponies and can ride or drive if it is too far for them to walk. The present system of regulating—rather than “compelling”—attendance is to employ a policeman to look up the children and to cut off their rations in case of obstinacy. This plan, if thoroughly enforced, as it is *not* at present, would doubtless suffice. The children should be taught and required to send written excuses in case of sickness or other good cause for absence. They should not be permitted to go with their parents on visits lasting weeks or months to other agencies. (This latter practice has cut down my average sadly.) The parents, as a rule, greatly prefer the day-school, ask for it, and co-operate with it to a large extent. This

has been my experience. All the children in the village, with but two or three exceptions, attend my school gladly and without any compulsion. I have had from thirty-five to forty-five on my roll.

Finally, let me disclaim any intention to decry boarding-schools or any good schools now in existence. Such a school as Hampton, as a privilege for the *picked few* (which it is rapidly becoming), will do a work which no one would pretend to believe possible to the humble “district school” in the Indian village. All that I claim for the day-school system—and this I do claim with emphasis—is that it is far better fitted than any other agency by means of its economy, general applicability, and wide-spread influence to give to every Indian child what we owe him—the elements of an English education.

THE WOMEN OF PERSIA.

BY S. G. W. BENJAMIN.

Ex-Minister to Persia.

THE condition of Oriental women is a subject of permanent interest, especially in the United States. In our country woman has reached a position which makes that of women in many other countries appear intolerable. A woman who exacts every deference from the opposite sex, both socially and before the laws, imagines that misery must be the lot of all who enjoy inferior privileges. But to this it may be said that every land has in some special form its own share of unhappiness, for happiness is not of this world, and whatever be the inextinguishable reason, in every age the lot of man and woman in this world is to suffer. It will be thus to the end of time. Again, people do not miss that of which they are ignorant, and Oriental women are no more miserable because they have not the advantages of American women than were our ancestors because unforeseeing the progress of future ages. Happiness and misery are evenly distributed in all ages and all climes.

While therefore granting that a Persian woman occupies a lower position than her American sisters, I am not prepared to admit that she is therefore more miserable.

It is true that marriage is the chief object E-Oct.

of the life, education, and thought of a Persian woman, yet that is not altogether an ignoble motive. If in its pursuit mercenary motives often intervene, and if disappointment often accompanies the result, it cannot be considered that these circumstances are confined to the destiny of the Persian woman, “the more’s the pity of it.”

Until she is nine or ten years old the Persian girl has a certain amount of liberty, playing with other girls and with boys of her age. But then begins talk of marriage, and it rarely happens that the marriage is deferred beyond the thirteenth year. But it by no means follows, as in Greece and the Latin countries, that a child like that marries a man greatly her senior, except sometimes among the nobility. In every class the men begin to marry when fifteen or sixteen years of age, and with the middle and lower classes at least a girl of ten to thirteen is generally married to a boy still in his teens, perhaps one with whom she played in the village lanes in childhood, and thus has a previous acquaintance with him.

Before the marriage the bride-to-be goes to the public bath with much ceremony, and there receives the curious attention of the

women of the neighborhood. Several days of feasting follow, during which she sits closely veiled at the head of the chief room of the house. At the end of these festivities, the contract having been signed before a *mollah* or priest, the priests in such matters being equivalent to lawyers and mayors with us, the young bride still heavily laden, is conducted to the house of the bridegroom. This closing ceremony generally occurs by torch-light. The bride goes on horseback, riding man-fashion and closely veiled; her trousseau and such part of her dowry as is in goods rather than money, accompanies her, and the march of the procession through the winding streets is proclaimed by the squeak of horns and pipes and the tum-tum of kettle-drums.

One would suppose that the great expense of such an imposing ceremony and such costly feasting would tend to keep down the number of marriages that a husband would incur and decrease the number of divorces. But this is not the fact. Undoubtedly many happy marriages occur in Persia; undoubtedly there is much genuine connubial love in the *anderoon*—the Persian name for the establishment of a Persian, which the Turks call the harem. But polygamy and divorce are common, the former the rule, and the latter easy and frequent. When a man cannot well support more than one wife at one time he overcomes the difficulty by trumping up some excuse for a divorce. Few Persians, except the peasantry, have less than two wives.

It would seem that the game is entirely in the hands of the men, and that the women have no standing or rights before the law. This, however, is not the case. In the Persian code, which is based on the principles laid down by the Koran, and is a most complete system of Oriental law, no subject receives so much attention as that of marriage and the relation of the sexes. If woman occupies before the law a rank subordinate to that of man, yet her rights are very carefully defined and vigorously protected. If divorce is easy, on the other hand it has its remedies. The husband can dismiss a wife at will, but the divorce can only be valid when a certain prescribed formula of words is used; it must be pronounced on three distinct occasions, which allows of reflection, and it must be given in the presence of witnesses. Furthermore, the dowry must be returned to the last farthing, nor

can the husband take back a divorced wife after he has twice divorced her unless she has first married another man and been divorced by him. Nor can a man put away his wife for adultery unless he has four witnesses.

As regards the matter of polygamy, this is also under strict regulation. A husband is required to give each of his wives an equal portion of his time, living with them generally alternate weeks, each having her own apartments. He cannot evade the law on this point except as one or more wives may agree to allow a favorite wife to have their share of his company for an accepted consideration, which must be scrupulously paid.

In the event of being divorced the Persian woman suffers no obloquy, but often remarries at once, bettering her circumstances perhaps. Her sons may be depended on to support her, and if she has children of age she need not come to want. This is a beautiful feature of Persian and of Oriental domestic life in general. Children love and revere their parents more than with us. A man who should be insolent to his father would be disgraced, and he who neglects his mother would be accounted the vilest of mankind.

It may be surmised that so many women in one household having much leisure would naturally have many jealousies and quarrels. This, of course, is sometimes the case, but not to any such degree as one might suppose. For, in the first place, they are accustomed from birth to live in the atmosphere of the *anderoon*, and hence to see women adjusting their conduct to the conditions of polygamy; while the common interest in one man around whom the little domestic community revolves, gives them a bond of sympathy and mutual advantage rather than of repulsion. They take a common pride in his successes, and share a common sorrow in his sufferings. He comes to them for advice and employs them together to plead his cause in any affair that concerns him. If he wishes to buy a piece of land it very often occurs that he sends one or all of his wives to get better terms by discussing the matter with the favorite wife of the proprietor. If he wishes place or power the same method is resorted to, accompanied possibly in each case by presents to the women they seek to influence. It is evident that every Persian woman obtains by such experience diplomatic tact that is often felt as of the greatest potentiality even

in matters of state. The ear of the shah himself may be reached in this way when no other means proves successful.

In criminal cases the wives of a Persian are often of the greatest service to him. He is perhaps languishing in prison or is about to be executed. Bearing presents his wives fly to the royal *anderoon* or to the *anderoon* of some official in court favor. There they urge their appeal earnestly and with a tact that is often crowned with success. If mere children in general information such as American women gather from a wide course of studies at our seminaries of learning, Persian women can scarcely be considered their inferiors in natural intelligence and certainly find a practice in affairs as described above, great aids to their peculiar talents.

Their education, what there is of it, really begins after marriage and consists of a knowledge of the arts of needlework, including exquisite taste and skill in embroidery. Sometimes also they excel in decorative painting and the plaintive music of Persia, practiced chiefly on stringed instruments. A few are now acquiring a knowledge of the piano. Of books and reading they know little; but occasionally a woman is found who has a talent for poetry, and a very small number are conversant with foreign languages.

A favorite resort of the Persian women of all classes excepting the wives of the Shah is the public bath, although the wives of the nobility generally prefer to meet in their own baths or to visit those of ladies of similar rank. These large steam baths are to Persian women equivalents for the theater, the concert room, the sorosis, or the quilting-bee. There they meet on familiar terms and exchange the gossip of the hour, taking home with them choice bits of news or scandal which they repeat to their lord and husband who is thus kept informed of the undercurrents of the circle in which he moves and intrigues. The Persian woman takes her embroidery to the bath and sits there perhaps an entire afternoon; sometimes laying aside her needle for a cup of tea or a few whiffs of the *kalán*, or water-pipe.

Only once in the year does a Persian take his wives out to walk with him. This is on the occasion of the *No Rooz*, or New Year, when the sun crosses the line in March. Then every one comes out in a new suit of clothes and families go forth together to pass a pleasant day in the gardens and parks blooming with

the flowers and verdure of rejoicing spring.

At other times the women of Persia must be content to go out alone, unless if of sufficient means they may have their eunuch or other attendants with them to keep off the crowd. One would suppose that going closely veiled as they do, even the eyes being concealed by a lattice work of embroidery through which they look, that they would suffer the greatest inconvenience. But this very inconvenient and uncouth disguise has its compensations; for no one could seek to penetrate the disguise except at risk of his life; and thus concealed the Persian lady can go where she pleases without discovery. There is no question that many take advantage of the custom to visit places they could not otherwise go without danger of discovery.

They also obtain compensation for the rigidity of the street costume by the ease of their indoor garb. The lower part of this costume is a short skirt. Then over the shoulders an open jacket is worn, which is often very beautifully embroidered with silk and gold thread. The long tresses, which are abundant and form a marked feature of the opulent charms of the Persian lady, hang in massive braids often almost to the knees. Embroidered slippers sometimes adorn the feet, but the soft rugs of Shiraz or Feraghan suggest walking with bare feet the greater part of the year when at home. It may be added that the real Iranees, or Persians, are a shapely race of medium height, oval features, black eyes, and delicate olive complexions. The Persian woman is far more handsome than the typical Turkish woman, and resembles the beauties of Andalusia. The children are exceedingly beautiful.

When a Persian lady is ill and requires the attentions of a physician she must be concealed by a screen, and he makes his inquiries without seeing her. She may be permitted to put out her hand and wrist in order that her pulse may be felt, but only when actually necessary. Among the lower classes in the villages, a little more freedom is permitted in consulting a doctor, for they live a more communal life, and the physicians in the rural districts are itinerants, who, on arriving at a village open an office under a broad plane tree by the side of a murmuring brook. Of course veiled, the women flock around him and he prescribes heroic doses; sometimes adding a charm to be worn over the suffering member, consisting of an extract from the Koran in-

side of an amulet. After dosing the village and carefully collecting every fee on the spot, the rustic *Æsculapius* prudently decamps to the next village. If the patient recovers, praise is given to God as well as to the doctor; if he or she dies, the result is laid to kismet, or fate, but at the same time it is well that the doctor should not be on hand, for human wrath is liable to overcome faith in the decrees of destiny.

One of the most remarkable domestic institutions of Persia is what is called the temporary marriage, or marriage for a specified period. This period may be for an hour or for ninety years, it matters not. This form of marriage is strictly defined and regulated by law. The time must be stated in the contract and the amount of the dowry; the woman must contract no other marriage for four months after the termination of the re-

lation and the husband must support the children. The terms must be drawn up and signed by a priest of the law. Such an arrangement being no disgrace to either party, some reputable women prefer a long contract of this sort to the usual form of marriage, because it does not carry with it the power of divorce. But in the main the custom tends to lower the standard of purity.

I have confined myself in these observations to the Persian race. The shah has Armenians, Jews, Koords, and Nestorians also under his sway, each with their own traits and customs, but liable to be indiscriminately called Persians by our people. But what has been said sufficiently indicates the general character of the condition of woman in this ancient country. The tendency at present is toward a gradual amelioration of these customs.

BAKALA.

BY ANNIE BRONSON KING.

THE idle lad Bakala had the fortune,
By sacrifice the blessed gods to please,
And they his worship to repay, one boon
Had promised, guerdon of his toil.

But when by their decree, in Heav'n he stood,
That there he fittingly his gift might choose,
'Twas but the poor interior, rough and rude,
Of a Wallachian hut he saw.

For like the princess in the story old,
Condemned each day by magic force to weave
From straw alone, her splendid cloth of gold,
So Heaven itself to human eyes uplifted,

Can wear no guise more fair than those same eyes
Hold in themselves capacity for seeing;
And in that soul no rapturous visions rise
Whose thoughts are bent forever on the earth.

"One wish is thine," was whispered in his ear,
As stood the peasant in the heavenly court;
And all the gods bent listening down to hear
Which of their fairest gifts the lad would choose.

Fame, health, wealth, beauty, power,
Wisdom, and good repute, and length of days,
Such are the gifts the gods delight to shower
On faithful-hearted mortals whom they love.

"Give me a bagpipe, Lord," besought the lad,
The sordid wish was granted. Back to earth
With his poor worthless prize, content and glad,
Bakala came nor ever knew his loss.

To each of us at times the heavenly gate
Is open flung and ours the choice;
And at our bidding, blessed genii wait
To bring the gift we choose.

Beware lest clinging to our childish vanities
We make the peasant's foolishness our own,
And barter heavenly possibilities
For meanest trifles of the earth.

THE CURRENT LITERATURE OF INDIA.

BY BISHOP JOHN F. HURST, D. D., LL. D.

THE growth of the indigenous literature is commensurate with the progress of education. The educated Hindu rushes easily into print. There is nothing he enjoys more than the sight of the effect of his thought on others. His desire for expression is a ruling passion.

The latest official returns of the issues of the Indian press are for the year 1886.* The total number of books and periodicals published in that one year is eight thousand nine hundred sixty-one. In the Indian vernaculars alone there are published annually about two hundred newspapers, the most of them being dailies.†

Bengal is more prolific in literature than any other province. The capital, Calcutta, is naturally the political center. But there is more general intellectual activity there than in any other part of the empire. The Bengali is a born writer. He is probably the youngest politician in the world. While yet a boy he begins to think on political subjects, studies English models, and very early gets before the world his notions as to how the government of India should become representative, and how the natives can best become factors in both legislation and administration.

The languages in which the many works published in 1886 are distributed are as follows:

Arabic, Arabic-Sindi, Assamese, Badugu, Bengali, Burmese, Brij, English, French, German, Gujarati, Hebrew, Hindi, Hindustani, Hindu-Sindi, Italian, Kachmi, Kanarese, Kannadu, Karen, Krukani, Kurg, Lankani, Latin, Malayalam, Marhatti, Marvadi, Nepalese, Pali, Pashto, Persian, Prakrit, Punjabi, Sanskrit, Santali, Sindhi, Tamil, Telugu, Tulu, Turkish, Uri, Zend.

The variety of subjects treated in Indian literature is astounding. It reflects not only the polyglot character of the race-stems, but also the mixture of faiths. Among the books

issued in 1882, in the Punjab we find such a heterogeneous compound as the following: "The Little Office of the Immaculate Conception of the Blessed Virgin," "Praises of Mohammed by his Followers," "Attacks on the Prophet by the Christians," "Stories of Krishna," and "Talismans from the Koran."

In the same region, the North-west Provinces, there is one treatise on astrology and another on electroplating. In Burma the list of books includes a volume of songs in praise of the "New Umbrella for the Dægen Pagoda." In the Central Provinces a collection of astrological calculations was published in an edition of five hundred copies. The Bengali publications comprise works on polygamy, the Brohmo discourses, and songs on the loves of Krishna. In Southern India a book in Kanarese has been published in an edition of four thousand five hundred copies reciting stories of Rama, Sita, and the Gopees.

A gratuitous edition of one thousand fifty copies of a work on astrology, in the Tamil, appears on the list of issues for 1882. Several other books on the subject are published for general sale, among them one in an edition of four hundred copies. It is claimed to be an ancient work two thousand years old. Another Tamil work denounces Christianity, animal food, and intoxicating drinks. An edition of five hundred copies of this work appeared in 1882. In the same language appear two other books of antagonistic tendencies, one a book of verses in favor of the Virgin Mary, and another a prose tale of a demon with a thousand heads.

From the multitude of topics we may name: "Prayers to the Jain Saints," "Exposure of Jugglers' Tricks," "Seven Ways of Reading the Koran," "The Zoroastrian Scriptures," "Genealogy of Brahmin Families," "The Mirror of Health," a "Tract against Swindlers," and a drama satirizing the teaplanter of Assam.*

Among the works published in the year 1886 are the following: a book on architect-

*Treber is an excellent, perhaps the best, authority on Indian literature in its several historical stages. See his edition of "Manu and Zacharie." London, 1878. P. 179, et al.

†Lethbridge, "History of India," p. 119.

*W. E. A. A., article in *Calcutta Review* (1875) on the "Native Literature of Modern India." See Trübner, "American and Oriental Literature Record," 1875.

ure, containing notes on the lucky and unlucky times for beginning a building; a biography of Faraday, adaptations of Shakspeare's "Comedy of Errors," "Winter's Tale," and "Merchant of Venice," Milton's "Paradise Lost," "The Diseases of the Elephant," "Cholera and its Cure," a Marhatti version of Goldsmith's "Hermit," the "Perils of Youth," a work telling young men not to run off to Christianity or any other religion before examining their own, and annotated editions of Goldsmith's comedies, "The Good-Natured Man" and "She Stoops to Conquer."

There is a large increase of important missionary publications, of works by the Hindu reformatory associations, and of native attacks on infant marriages and other lingering abuses. Another important triumph must be added to the long catalogue of philological achievements of missionaries. In Bhamo, Burma, a Kachin spelling-book has been published by two missionaries. It is the first attempt to reduce the savage Kachin dialect to grammar.

A glance over the titles of the great mass of the native publications is sufficient to reveal the want of a practical character in the larger part of them. Ram Chandra Bose, an excellent judge of his own people, says of them: "The Hindus are the most dreamy people on the surface of the globe; and the literature of no other country as great as theirs confessedly is, appears at first sight so full of day dreams. The Hindu *geographer* does not travel, does not explore, does not survey; he simply sits down, and perhaps under the influence of an extra dose of the exhilarating soma-juice dreams of a central mountain of height greater than that of the sun, moon, and stars, and circular oceans of curd and clarified butter. The Hindu *historian* does not examine documents, coins, and monuments, does not investigate historical facts, weigh evidence, balance probabilities, scatter the chaff to the winds, and gather the wheat in his garner; he simply sits down and dreams of a monster monkey who flies through the atmosphere with huge mountains resting on the hairs of his body; and constructs thereby a durable bridge across an arm of interminable ocean. The Hindu *biographer* ignores the separating line between history and fable, invents prodigious and fantastic stories, and converts mere historical personages into mythical or fabulous

heroes. The Hindu *anatomist* does not dissect, does not examine the contents of the human body; he simply dreams of component parts which have no existence, multiplies almost indefinitely the number of arteries and veins, and speaks coolly of a passage through which 'the atomic soul' effects its ingress and egress. The Hindu *scientists* in general set aside both inductive and deductive processes and present their day dreams and nightmares as facts of accurate knowledge."

India is, however, rapidly arousing to the correction of her own errors. Take astrology as an illustration. This absurdity still holds many millions of Hindus in its strong arms. The sacred writings contain enough to make the people believe any absurdity. For example, "Krishna was born when the moon was in the Rohini group of stars, and Krishna put his uncle to death. Therefore whoever is born when the moon is so situated must be very unfavorable to his uncle." The entire life of the average Hindu is based on astrological assumptions. "Every act, every duty, through the entire round of domestic, social, mental, and moral life, whether employing a barber or entering into matrimony, must be explained and interpreted and engaged in by the aid of the astrologer. This is the tyranny of falsehood."*

A native author, Sir Madava Rao, has written a work in refutation of this nonsense, and comes boldly forward and challenges any one to produce a single illustration of astrological verity. Others will follow, in due time, in his footsteps.

We must not forget that the better style and quality of native publications, whether original or reprints, are gradually gaining the ascendancy in every department. Take, for example, the recent issue of Pope's "Essay on Man," an adaptation in Bengali, "Gil Blas," in Marhatti, and Shakspeare's "Julius Caesar," in Marhatti.[†]

Many of the native publications classed as religious are purely controversial. They are attacks on Christianity. Both Hindus and Mohammedans are quite willing to attack Christianity in print. From the first, missionaries have indulged pretty freely in controversy. This spirit has been latterly on the

* *The India Witness*, Nov. 1887.

† *The Missionary Conference: South India and Ceylon*, 1879, Vol. II., p. 377 ff. A bibliography of Christian publications in the various missionary fields would be an important contribution to the history of general literature.

decline, as if the missionaries were now thinking the game hardly worth the chase. In some sections Hindus and Mohammedans have taken up the cudgel against one another. On the other hand, controversial works have been written, in a very hostile spirit, by rival sects within the same religious fold.

The languages in which the natives and missionaries produce their books and serials are determined by the territory. In the North-west Provinces the books are mostly in Persian, Urdu, Sanscrit, Hindi, and Arabic. In Bengal the native books are for the most part in Bengali and Hindustani. In Madras the Tamil, Sanscrit, Telugu, Malayaleiu, Kanarese, Persian, and Urdu prevail. In Bombay the mixture is even greater: Urdu, Persian, Arabic, Guzurati, Sanscrit, Marhatti, Kanarese, Sindhi, Pehlavi, and Zend.

One of the long overlooked facts in Indian history is now coming to the light—the large place which woman has had in the development of a native literature. She has made for herself as large a place, in view of her depression, in Indian letters as in any Occidental country. Ahulya, Tara, Mandadari, Sita, Kunti, and Drampadi are as familiar in certain Indian circles as Olympia Morata, Renata of Este, Hannah More, and Elizabeth Barrett Browning are to the intelligent people in England or America.*

* *Calcutta Review*, Vol. 48, p. 32 ff.; 91 ff.

A close study of the present condition of native literature reveals the fact that the use of the English language is steadily increasing. This is the only language in India which has a certain future of abiding strength. It is the only one which, by its golden links, binds all the languages and the races together. Already Roman letters are rapidly taking the place of the native characters, especially in publications intended for native Christians. Give the educated Hindu, to-day, his choice which of his three hundred languages he would part with last, and his reply would be, "The English." The constant trend of the missionary press is to increase the prominence given to the English language, and, when the publications are in the indigenous tongues, to use the Roman characters. The sight of a native book in Roman characters, is wonderfully suggestive. It means the pronouncing of sentence on the languages as well as the faiths connected with them. The tendency now is to the reduction of the number of languages. They are coalescing, and the process is toward extinction. The English is the growing language of the entire Eastern world. Whenever a missionary publishes a work in a native tongue, he regards it as only a make-shift. He must take things as they are. He expects the day to come when only English will be the language of all literature from the Himalayas down to Cape Comorin.

DOROTHEA DIX.

BY FRANCES E. WILLARD.

President of the World's W. C. T. U.

MANY years ago the thought came to me, "Why do I know nothing about Dorothea Dix except that her work resulted in the founding of asylums for the insane?"

Then I began questioning intelligent persons concerning her and found that they knew just as much and no more than I, except that some said, "It seems to me she was a New England woman." Whereupon my mental comment was, "That goes without saying." In those early days no other woman would have dared attempt what she so gloriously performed.

There is a Quaker home in Trenton, New

Jersey, where I have often tarried for a night—that of the Baily family, foremost in all good works, especially those of the White Ribbon. One day they told me that Dorothea Dix had long been an inmate of the New Jersey Lunatic Asylum—not as a patient but a resident; that she seldom left her room, and did not see visitors; and that Dr. Ward, the beloved and trusted head of the institution, could tell me many things concerning her. But the inevitable "next evening's engagement" of these crowded years prevented me from doing more than to send a little package of W. C. T. U. literature with a note, to Miss Dix herself.

This she answered most kindly in words that proved her deep interest in the W. C. T. U.—to which she set her seal by enclosing a ten dollar bill, repeating this token several times in the few years between that date and her death. Her handwriting was so broken that I thought she must be paralytic, and hence I did not venture to intrude upon her through the post-office as often as my heart prompted me to do.

In 1887 the newspapers announced her death, giving notably meager items concerning her career. On a Southern trip last spring, I was entertained for several days in the Alabama Hospital for the Insane at Tuscaloosa, of which Dr. Peter Bryce has been the head from the date of its beginning, thirty years ago.

In the rotunda of this great institution I saw for the first time a portrait of Miss Dix. It was a large oil painting, and represented a beautiful woman in the prime of life, simply but tastefully attired, her dark eyes and hair setting off her fair complexion, peaceful brow, and smiling lips—a countenance beaming tender and holy thoughts. Dr. and Mrs. Bryce then and there promised to help me collect the material for a sketch for THE CHAUTAUQUAN. Soon after, I sent a list of questions to several names given me by these kind friends. Among those addressed, some neglected and a few declined to answer, but Dr. John W. Ward, the well-known superintendent of the New Jersey State Lunatic Asylum, made the following clear-cut reply, which states the facts so well that I give them just as they were given to me:

DEAR MADAM:—I very much regret to have to state that in regard to many of the questions which you have asked I shall be able to furnish you with but little satisfactory information. Miss Dix, even to her most intimate and trusted friends, was always very reticent in regard to all matters that appertained immediately to herself or to her works. To the latter she very seldom made reference, and not infrequently showed annoyance if not sometimes positive displeasure when any one made reference to them. She was always averse to referring to any matter that would seem to reflect any praise or commendation on her own actions.

My acquaintance with Miss Dix extended over a period of more than twenty years, the last six of which she was by reason of her illness a constant resident of this institution,

and hence a member of my own household. I have had many conversations with her, and occasionally she would refer briefly to some important event in her own life. In this way I have gained a few facts in regard to this wonderful woman, that perhaps may not be known to others. These I have given to her biographer to make such use of them as he may deem proper.

Miss Dix, I think, never told any one about the date of her birth. I once summoned the courage to ask her, and the reply was, "I was born on the fourth day of the fourth month, and probably am somewhat older than you are." Her life-long friend Dr. D. Hack Tuke, the eminent Royal Commissioner of Lunacy of Great Britain, once asked her in my presence, as to her age. She replied, "Do you think Doctor that a stranger could regard us as contemporary?" This was all the answer that the Doctor received. I would state that he was very much younger than Miss Dix. From the best data, however, that I have been able to obtain, I think that she was about ninety years of age at the time of her death. A very intimate friend of hers once told me that she thought Miss Dix could not be more than about eighty-six years of age. She went to school with Miss Dix, and she only did as the rest of us, estimated the age.

In regard to her birth-place, there is also the same uncertainty. Miss Dix told Mrs. Ward and myself, on two separate occasions, that she was born in the city of Worcester, Massachusetts. Her biographer, however, has found indubitable evidence that she was not born in Massachusetts but in New Hampshire.

She was an American of fine nervous organization, and had the most systematic mind that I ever knew, and marvelous power of expressing herself, clearly, forcibly, and positively; her choice of words, her enunciation, and pronunciation were models. Her ability to portray or describe I have never heard equaled. She was Unitarian in religion, with a *deeply profound reverence* for the Savior. She said to me once that Jesus Christ was to be worshiped and adored because He was the Son of God, but He was not the Father. As to the books she read, they can only be given in fullness by her biographer. The Bible and hymn books were chief. Of the latter she had an unusually large collection, and she was very partial to the hymns of Wesley Watts, and Montgomery. An evening sel-

dom passed in which she did not read either to herself or aloud to others. She was the finest and most expressive reader to whom I have ever listened. It was always regarded as a rare treat by us all when she condescended to read aloud to us.

She took up the work in regard to the insane, I think, purely from a spirit of philanthropy, and had the firm belief that she was directed by God to do so. She once said to me, "I have never in my long life and somewhat varied career laid out any plans for myself for the morrow. God has always directed me and shown me what I should do. I always found work ready for me, and I endeavored to perform it faithfully." Her first work was in regard to prisons and the condition of those confined in them. This I think engaged her attention for some years prior to her entering upon the work of ameliorating the condition of the insane in this country and in Europe. I think that she taught school at or near Boston, Massachusetts, until she was seventeen or eighteen years of age. It was while she was teaching school that her attention was called to the debtor's prison in Charlestown, Massachusetts. It is quite probable, that her philanthropic work commenced with her successful efforts in reforming the irregularities that existed in this institution.

She wrote much, and was the authoress, or compiler, or both, of at least six small volumes. She never allowed her name to appear in any of these works—another evidence of her great dislike to any publicity being given to anything that she did. One of these books that had considerable reputation, was entitled "Science in Familiar Things." This was written over a half century ago. She wrote numberless addresses and memorials to various legislative and other bodies in regard to the insane; some of these are master-pieces of composition, conciseness of expression, and classic English. She wrote but very seldom, so far as I am aware, never for magazines or other periodicals.

She spent much of her time in reading. I would state that it was her invariable custom never to pass a word the meaning of which she had any doubt, without at once consulting the dictionary. She attended as much as possible to a very large correspondence. She was always pleased to hear from the various asylums for the insane throughout the country, and kept up as long as she was able to do so correspondence with them; and to

within a very few days of her death took a lively interest in them. Very many of these institutions she founded or was immediately instrumental in doing so.

She always manifested a preference for the Trenton Asylum, because it was her first success in establishing an asylum, in the main by her own personal efforts. After a visit attended with great labor and much expense, to every jail and alms-house in every county of our state, and personally seeing the exact condition of the insane in these places, armed thus with incontrovertible facts, she appealed, upon the floor of our state senate, for help for those afflicted with this sad malady, and her appeal was successful. The Trenton Asylum was the result. She did the same thing afterward in several of the states of the Union, and such was her indomitable courage and perseverance, her clearness and precision in placing facts obtained from personal observation before those in authority, that she was very rarely unsuccessful. If any one on earth had the word failure expunged from her dictionary, that individual was the late Dorothea Dix.

She left a comfortable fortune. There is evidence that she spent it freely in the furtherance of her work, although it is difficult to tell to what extent, since she never spoke of it to any one. She never under any circumstances made any charge for her work. She always paid her own expenses, either from her own private income or from money that had been placed in her hands by generous friends to further her work.

She never allowed what is called the Woman Question referred to or discussed in her presence. She did not favor women at the polls at the general elections. I am not aware that she entertained adverse feelings in regard to women in the professions, especially in medicine. Two or three of her very warm personal friends, persons whom she always manifested much pleasure in having come to visit her while she was with us, were women physicians.

She was full of courage, fear did not enter into her composition. There are very many illustrations of this fact. Tenderness or pity in a certain sense she had, but these apparently were not the motives that led her into the field of philanthropic work. That she was philanthropic, in a high degree, no one who had any knowledge of her could for one

moment doubt. However, the tenderness of a mother for a child, the pity that a deeply sympathetic person has for one in affliction, that whole-souled sympathy that goes out from the heart of some to those who are in sore trouble, she did not have. She had a keen sense of injustice, was indignant when she found an individual imprisoned for debt, treated as was the custom in other days, when she found the insane treated as dogs in the alms-houses and jails, when she saw the suffering, emaciated Union soldiers from the prison pens of Libby and Andersonville. She was intolerant of wrong in any form, and no one could express his feelings of indignation more vigorously, tersely, and unmistakably.

She was a marvelous woman, quiet, unostentatious, but energetic, persevering, and exceedingly efficient in any work that came to her hands to do.

Very respectfully yours,

JOHN W. WARD.

Miss Dix had been governess to the children of the famous William Ellery Channing and her unorthodoxy would in these days almost pass for orthodoxy. He was her pastor and encouraged her disposition to investigate religious subjects.

I have been unable to learn anything about her family except that her father died in 1821.

She established a select school in Boston for young girls. In 1834 she went to Europe to study methods of the treatment of the insane, also of criminals and paupers. Previous to this she had interested herself in the condition of the Charlestown state prison, visited the inmates, and in various ways cared for the suffering and unfortunate. A relative having left her sufficient property to make her independent, she went abroad, as stated, and on her return devoted herself to the amelioration of the condition of the defective, dependent, and delinquent classes. For this purpose she visited every state in the Union east of the Rocky Mountains, always appealing to the legislatures to take measures for the relief of the unfortunate. She was especially influential in securing such action on behalf of the insane by the establishment of state lunatic asylums in New York, Pennsylvania, North Carolina, Alabama, Illinois, Indiana, and other states. Her powers as a lobbyist were unrivaled. Of fine presence, manners winsome and

womanly, indomitable in spirit, and fully conversant with the miseries she sought to alleviate, it is probably true that Dorothea Dix never once appealed in vain to a legislative assembly. It is to be remembered that just as the work of a politician *may* be, but is not often, done from the highest Christian motives, so there is nothing in the nature of the case that obliges a lobbyist to be less than a saint. Indeed Dorothea Dix was nothing less, as her life and teachings prove. The highest and most persistent force in her richly endowed nature was that subtlest of all things—*faith*. We have learned in these days to describe and utilize the properties of electricity; the more sublimated brain of civilization to follow this, may do the same with what is called *odyle* force; later, thought-force may be the actual motor of the world, and last of all, that finest, most spiritual, most ethereal yet most dynamite-powerful of all—the *faith-force*—may become the central force of all. Some souls live in this age as prophecies of what it shall become; and the *faith-force* that made Dorothea Dix always victorious, seems to be the final analysis of her wonderful powers.

When we read that in April, 1854 in consequence of her unwearied exertions and petitions she had a bill presented to the United States Congress in 1848 and 1850 which passed both Houses appropriating ten million acres of land to the several states for the relief of the indigent insane, we get a glimpse of this power; and when we read that Franklin Pierce put his veto on this bill we mournfully realize that "one sinner destroyeth much good."

When the Civil War enshrouded us, Miss Dix, unable to carry on her special work, was made superintendent of hospital nurses, "having entire control of their appointment and assignment to duty." On the return of peace she resumed her labors for the insane.

One characteristic incident of this great-hearted woman has come to my knowledge and proves her splendid courage:

"Are you not afraid," said a friend, "to travel over the country alone?" "I am naturally timid," replied Miss Dix, "and diffident, but, in order to carry out my purposes, I know that it is necessary to make sacrifices and encounter dangers. It is true, I have been in my travels through the different states, in perilous situations. Once in the state of Michigan, I had hired a carriage and

driver to convey me some distance through an uninhabited portion of the country. In starting, I discovered that the driver, a young lad, had a pair of pistols with him. Inquiring what he was doing with arms, he said he carried them to protect us, as he had heard that robberies had been committed on our road. I said to him, 'Give me the pistols, I will take care of them.' And this he did, reluctantly.

"In pursuing our journey through a dismal looking forest, a man rushed into the road, caught the horses by the bridle, and demanded my purse. I said to him, with as much self-possession as I could command, 'Are you not ashamed to rob a woman? I have but little money, and I want to defray my expenses in visiting prisons and poor-houses, and occasionally in giving to objects of charity. If you have been unfortunate, and are in distress, and in want of money, I will give you some.' While thus speaking to him, I discovered his countenance changing, and he became deathly pale. 'My God!' he exclaimed, 'that voice!' and immediately told me he had been in the Philadelphia penitentiary, had heard me lecturing to some of the prisoners in an adjoining cell, and now recognized my voice. He then desired me to pass on, and expressed deep sorrow at the outrage he had committed. But I drew out my purse, and said to him, 'I will give you something to support you until you get into honest employment.' At first he declined taking anything, until I insisted on his doing so, for fear he might be tempted to rob some one else before he could get some honest work to do."

Miss Dix published, anonymously, "The Garland of Flora" (Boston, 1829), "Conversations about Common Things," "Evening Hours," "Alice and Ruth," and other books for children, also "Prisons and Prison Discipline" (Boston, 1845), and many tracts for prisoners.

Of one of her books, "Private Hours," I have a copy given me by Mrs. Dr. Bryce. This must have been to the Christians of her day what Dr. Austin Phelps' "Still Hours" was to some of us in our youth, or Frances Ridley Havergal's books of devotion are to

many Christians in these days. A few extracts will reveal the spirit of this Channing-Unitarian Christian:

"Let me consider the use I am to make of this holy time—this day of rest. How many peaceful thoughts and pure associations link themselves to this blessed period of the world's repose!

"I thank thee, O heavenly Father, that now I may cast off the heavy burthens of week-day care; that I may retire from the perplexities of active life; and, for a brief space, call home my thoughts, and demand of my soul what progress it is making toward the mark of its high calling in Christ Jesus.

"I thank thee, Father, for that great gift of Thy love to the world—the gift of Christ, Thy son; for His example I thank thee; for His perfections I praise thee; for His triumphant resurrection I glorify thee.

"And now do I know that this mortal body doth retain an immortal spirit; now do I know that when this earthly frame shall be laid in the grave, my living soul shall return to God who gave it.

"Let me then take diligent heed to my ways; let me make my heart clean from its offences; let me watch that my lamp burn brightly; and may my light be not hidden,—but, like the flame that glowed on the ancient altars, may it never be extinguished; having its origin in heaven, may it guide me there.

"I would be thankful for the privileges of public worship, and strive rightly to improve them; keeping in mind the great object for which the disciples of Christ are taught to assemble. May all devout services be sanctified; may no unholy thoughts there find entrance; may no earthly affections, O my God, overrule my love for Thee! but may I glorify Thee, even as Thou art glorious; may I love Thee, even as Thou hast loved the world in giving Thy beloved Son to live, to teach, and to die, that those who believed on Him might have life everlasting.

"It is little I can do at most; but let that little be done well. If I have not capacity to execute great designs, let me be careful that I do not forget my obligations to perform good ones."

IMPRESSIONS MADE BY THE PARIS EXPOSITION.

BY EUGÈNE-MELCHOIR DE VOGUÉ.

Translated for "The Chautauquan" from the "Revue des Deux Mondes."

SUMMER is the season of the year when the nomad which lies dormant within each one of us awakes. We all wish to flee from our homes and our accustomed cares. An obscure instinct impels us to seek out some unknown corner of the world; we imagine it to be charming, and it will be so for a time because the appearance of things there is not associated with the old anxieties which we carry with us.

But for this year it is useless for the French people to travel abroad, since the world has come to us. The beneficent gods have reduced the size of the great globe and have rolled it along the shores of the Seine River; they have sampled the universe for our benefit. Let us take our summer outing, then, in the Paris Exposition. The notes gathered by the way I will report to the unknown friends who may wish thus to follow us in our rambles. However, if they desire a perfect cicerone, informed on all points, technical, let them read no further; they will not find in me their man. Picturesque scenes, souvenirs which will call back a vision of the country long afterward, impressions of the crowds, and, above all, latent ideas under visible forms will occupy our attention and form the subjects of this sketch. The Exposition is amusing only because it is an immense magazine of ideas.

A first inspection permits us to affirm the following: The Exposition is not only a retrospective review, it is a point of departure for an infinity of new things. In this monumental chaos which has arisen in the Champ de Mars, in these edifices of iron and of decorated tile, in the machinery which obeys a new dynamic power, in these encampments of men of every race, and, above all, in the new ways of thinking which suggest new ways of living, are to be seen the lineaments of a civilization which is as yet only outlined, the promise of the world which will be tomorrow.

But we are talking at the gates and time presses. Let us enter by one of the wickets. What an elegant perspective of lawns, of water, and of flowers is spread out before us

between the many colored domes of the great palace and the labyrinth of variegated pavilions. Where shall we go first? Let us follow the crowd to the great center of attraction, the Eiffel Tower.

For some years such a construction had struggled obscurely in the brain of engineers, seeking to be born. In different places in the Old World and in the New, had men dreamed of it, and tried to design it on paper. Some had even attempted it, as at Turin, in wood, at Washington, in stone. At last the approach of the Universal Exposition hastened the unfolding of the idea. A Parisian constructor succeeded in making his projected scheme for the undertaking prevail. At first he encountered general incredulity. The word Babel sprang from all lips. But at last, in spite of derision, the Tower was decreed.

We saw them lay the foundations deep down on a bed of solid clay; soon the four megalithic feet of the elephant-like structure pressed upon the soil; from these stone pedestals rafters sprang at such angles as to upset all our ideas regarding the equilibrium of an edifice; a forest of plate-iron work took root and grew, revealing nothing to the eyes watching, as to its object. At a certain height the raising up of the material became very difficult; cranes were fastened to the structure, which like huge crabs grasped with their pincers the needed articles, and unmindful of their enormous weight, easily lifted them to the required places. A second story was thrown up from the first; all of the frame-work seemed like an enormous carapace which gave neither the impression of height nor of beauty. However, the great difficulties were now conquered. The first story had presented to the constructor the hardest problems; the second was finished with much less trouble in six months.

Starting from this story rose the slender column, making its way rapidly into space. The work of its construction largely escaped public view. The autumn mists often entirely concealed the aerial work-yard; in the twilight of the winter afternoons might be seen reddening against the sky the fire of the

forge; one could scarcely hear the hammers which riveted the iron work. There was this peculiarity about it, one seldom saw any workmen on the Tower; it rose apparently alone as if by the incantation of genii. The great works of other ages, the Pyramids for example, are associated in our minds with the idea of a multitude of human beings bending over handspikes and groaning under chains. The modern pyramid arose by the power of calculation which made it require only a small number of workers. Each part of the great structure, each one of its bones of iron—to the number of twelve thousand—arrived perfect from the manufactory, and had only to be adjusted to its proper place in the gigantic skeleton. The structure presented an example of what mathematicians call "an elegant demonstration."

At last one beautiful morning in the spring, the Parisians who had watched the beginning of the great column, saw the shaft bordered by an entablature. A campanile rose from this platform, and on its summit our flag displayed its colors. In the evening there appeared in place of the flag a giant carbuncle, the red eye of a Cyclops who darted his glance over all Paris. "The Tower is finished," cried the voice of fame.

My readers will not expect a detailed description of this gigantic work. Nearly all have already climbed it, or will climb it. The great hive is now in full activity. Several cities have arisen in its interior with their varied commerce, and their special customs. A Victor Hugo is needed in order to concentrate into the soul of a Quasimodo the interior life of the Tower.

I went to seek upon the summit the impressions which my guide-book described as commonly experienced there, but I learned with astonishment that my views did not agree with them. The book said that one would at first feel surprised at the arrest of all movement in Paris, at the immobility of the crowds in the streets and at the foot of the edifice. My companions and myself were unanimous in remarking the acceleration of motion, the feverish haste of the Lilliputian people. The pedestrians seemed to run, throwing forward their tiny limbs with automatic gestures. A moment of reflection, however, will explain the apparent contradiction in impressions; the eye judges men from a height of one thousand feet, as it habitually judges ants from a height of five feet, the relation is about the

same. Who does not often exclaim, "How can such little animals run so fast?" But the actual distance covered is so small that in one sense movement seems arrested. The comparison to an ant-hill is exact at every point, for the agitation of these multitudes of human atoms, rushing in every direction, seems at this distance, as inexplicable, as bizarre, as the flurry of movement seen in an ant-hill. Again, the book said that oscillation was perceptible in high winds. I questioned the keeper of the light-house as to this and he replied that occasionally when the air was very calm a slight swinging was noticed, but never any when the wind blew. With these exceptions our experience justified all that was written.

In the daytime one might prefer, to the urban view spread out from the height of this Tower, the vast and picturesque horizons which open from a peak of the Alps; but in the evening it is without an equal in the world.

Late one evening I remained alone on the summit. I was struck with the strong resemblance of all my surroundings to those of a man standing on the deck of a vessel at sea. There were the chains, the windlass, the electric lamps fixed to the ceiling. To complete the illusion the wind was raging through the sheet-iron rigging. Even the ocean was not lacking, there it lay under my feet,—Paris. The night fell, or rather the clouds as great veils of crape which steadily grew thicker, rose from below and spread out between the city and the sky still clear from my standpoint. It seemed as if the night was being drawn up from Paris. The different parts of the city vanished slowly one after another, and soon all were enveloped in darkness. Then lights began to appear, fast multiplying to infinity. Myriads of stars filled this abyss, assuming the forms of strange constellations, joining at the horizon with those of the celestial vault.

Suddenly two luminous bars stretched themselves over the earth. They were the great pencils of light sent out by the two reflectors which revolved above my head. Seen here at their source the two beams seem to feel their way into the night with sudden, eager movements; one could swear that they were searching for something lost. I could not weary of their movements, so voluntary they seemed, and so anxious. One instant they drew out of the shadows a hilly wood

having white spots here and there in its foreground ; it was the cemetery of Pere-Lachaise ; and the next, replacing this, they stopped upon Notre-Dame, throwing out into strong relief its great towers. As, shortly after, I was descending the long spiral staircase, stopping on one of the landings, I looked back to the top. The two illuminated arms seemed then to be raised into space, and were continuing their revolutions. Suddenly they met at right angles ; for a moment against the black sky they formed a shining cross, the sign of pity and of prayer, a fitting crown for the great Tower.

The Exposition has revealed the advent of a new art, the art of building with iron. The reconciliation of the engineer and the artist will date from this event. Cinderella has made herself known to her sisters upon the Champ de Mars ; industrial architecture with iron for its basis has henceforward an esthetic value.

We notice first the great central dome over the main building from which sweep out the five great wings. Here the iron was not a success because it followed the old errors of construction and decoration, because it subordinated its own properties to those of stone, which it replaced. The ornamentation is heavy and gaudy. The imagination of the artist was evidently possessed with the magnificence of great opera houses—those bad counselors—and he tried to reproduce their leading features, the niches, the human figures, the overloadings of carved iron. Within and upon the façade this debasement of art is marked ; emblematic knops alternate with large nude figures ; upon the summits of pillars are to be seen engines, complicated machines, gods, beasts, republics, and all the symbolism pertinent to agriculture. There are too many reliefs, too many colors, too much gilding. For this attempt the iron was forced to be too sumptuous ; it presents the appearance of a rude workman dressed out in his Sunday best. In this fine apparel can be seen no longer the only beauty which it possesses, a powerful and flexible muscularity.

Let us now enter the Palace of Machines. All the terms expressive of admiration have been exhausted before its nave 150 feet high and 1,380 feet in length. We would know in what its beauty consists, and find the answer in this : the iron, refusing to vie with stone, has sought means of expression only in its

own proper nature, in its strength, its lightness, its elasticity. It has resolutely sacrificed all decorative iron-mongery and has clung to the fundamental law of esthetics ; beauty is only harmony between form and destination. Those who erected this construction were not occupied in imitating any known type ; they consulted the properties of iron, calculated its resistance, and, having become assured of what they could demand of the metal, they proceeded with their work. They modified the arch into the tierce-point and so created a new Gothic arch, with inflections and elongations of an incomparable elegance. The Palace of Machines in every way contents the eye and interests the mind.

The Tower and this Palace have taught us what can be done with iron, reduced to its own resources. But the exclusive employment of great metallic net-works responds only to exceptional needs ; for many other uses iron has to call in the assistance of other materials. It was a new problem to determine the choice, the esthetic conditions, of these alliances. The solution of it was sought in the construction of the twin Palaces of Fine Arts and Liberal Arts, two of the wings from the main building, and was found in using decorated terra-cotta as the auxiliary material. The result was brilliant. Here the highest and most inventive taste has directed the co-labor of the smelter, the potter, and the ceramist. I do not know what to extol most in these buildings ; the just apportionment of the iron and the brick, inspired, it would seem, by the structure of the human body with its bones visible under the flesh ; the light and simple ornamentation consisting wholly of terra-cotta and encaustic tile ; or the wise blending of colors in which two tones predominate—the mild blue of the iron and the soft rose of the brick.

One especially remarks in connection with these structures the domes of glazed tile, a happy borrowing made from the old masons of Persia. Upon the frontiers of that land I admired last year cupolas of enamel upon mosques in ruins, which reflected all the colors of the sky above them. It seemed to me that I was looking upon their mirage, when in Paris I saw such cupolas upon these palaces of the arts. It remains only to mingle with these geometric designs, a little of the characteristic ornamentation of that land, a few of their flowers and arabesques, to give to Parisians the visions of Ispahan and Samarcand.

Nor are the domes the only example of this able adaptation of Oriental art, which is not an imitation. In arch-ways, in stair-ways, on columns, everywhere, these Eastern elements of decoration have been blended in a Western arrangement with that which is best in our country—the country of Limosin and Palissy—the medallions, the friezes, the cartouches, in which the ceramic art appears in a delicacy of relief and color which is purely French.

If one could separate the Palace of Fine Arts from the accumulation upon the Champ de Mars, where the particular value of each building is lost sight of in the general effect of the kaleidoscope, if he could isolate it upon some eminence, all eyes would be struck by the beauty, grace, and novelty of the monument.—Monument! Some will perhaps judge the word a misnomer for these temporary structures. It is not necessary to exaggerate, and I do not pretend that they have erected here the Parthenon of the future. I believe simply that when the exact history of iron shall be written, these original creations constructed from it will be mentioned with honor.

I foresee objection: How found a principle of art upon ephemeral buildings which will be demolished in a few months? That is not entirely proved; there is question of preserving these palaces upon the Champ de Mars, or of removing them elsewhere. The vast pavilion of the Argentine Republic, attracting the attention of all visitors by its cordons of rubies and emeralds which the electric lights set into a brilliant glow, was transported in pieces from that land in an ocean vessel, and it will be carried back there to remain for a long time yet, the pride of Buenos Ayres. But whatever may be the fate of the palaces of the Exposition, it is necessary to remember that iron constructions will have this added character of being movable.

These light domes, with their glass-like coverings, recall to me those I saw not long ago in Asia—for their temporary purpose they recall more strongly the tent of felt where a Turcoman received me. Without going so far, you can see upon the right hand of the esplanade this ancestor of all dwellings sheltering the red man, the Lapp, the African. If I understand the history of habitations, such as it is unrolled here before our eyes, from the primitive hut to the Gallery of

Machinery, man has made a long effort to give to his house proportions always more vast, and a stability always more enduring. But behold at the end of the effort, by one of those ironies of which history is so full, the circle where we turn, closes upon itself; the last degree of civilization rejoins the first, the nomadic instinct awakens under other forms. The little tent of skin at the beginning, the colossal tent of iron at the close; the two differ only in their materials and in their size. This one, like that, is made to shelter multitudes in movement, no longer a pastoral people, but still a working people.

The electric fountains next attract our attention. The people seek more and more this supreme feast of the eyes, which may be seen every evening; they even wait long hours in crowded ranks around the basins; and when the jets spout up, a cry arises from the crowd. No wonder, illuminated by the invisible fire, they blend in their changing combinations all the shades and tints of the prism, and form rainbows which raise themselves up into the air and fall back again shattered into cascades of pearls and diamonds.

I went to visit in their subterranean cave the brave workmen who make in the heat and in the darkness the preparations for this fairy scene. Like their brothers in coal mines, although with less hardships, they go to extract for other men the light and the joy which they themselves do not see. A bell is sounded; some orders in cipher are flashed across a signal board, directing the men in the use of their levers. Immediately in the funnel-formed reflectors rays of light appear and are seized in the chimneys by inclined mirrors which send them to the openings above. Plates of blue, red, yellow, all colored, glass glisten over our heads. One could easily imagine himself in the central forge of the earth, where the kobolds elaborate the precious stones and form the crystals. These workmen—the good gnomes of actual service—throw themselves upon their levers, and by their toil cause to spring up above that eruption of gems.

In leaving the underground works I stopped at the bell-turret of the commander. That magician gives his orders upon a table which resembles a piano having two key-boards. A line of electric buttons, colored white, corresponds to the scale of colored glass plates, and behind this a row of black buttons corres-

ponds to the plugs of the jets of water. The present system which necessitates the transmission of the orders to the intermediate places under the basins marks the infancy of the art. With a few simplifications which will not surpass the genius of an ordinary mechanism, a single man will be able to work directly from his bell-turret the stop-cocks of the water jets and the plates of glass.

Our next visit will be to the Earth, our mother. There is presented here in a special pavilion of the Exposition, for the millionth time, a new representation of it. It is expedient on going there, to get a good view of the *ensemble* before studying in detail the different examples of men which it bears and the different works with which these men have embellished it. One does not know how sufficiently to felicitate Messrs. Villard and Cotard upon their intelligent enterprise. If we have reason to congratulate ourselves over our ancestors on any one thing, it is that we know a little of geography. It is necessary that our children should have still a much better knowledge of it. When we leave to them the earth it will be more than ever inhospitable and rude to those who do not understand it. I wish that I could see all the youth of France coming again and again into the pavilion of this great ball. They would learn more here in one moment from the keen and singular impressions they would receive, than from hours of half-hearted study over books. Flat maps demand of a child an effort disproportionate to his intelligence. His eyes believe only in appearances, and the false appearance of the maps contradict the explanations given. Here all is truth and joyfulness for young imaginations: the form, the motion of the globe, the immensity of its oceans, the red lines of great voyages, and the discoveries of cities and countries which they actually make for themselves as they search over it.

We will go up in the elevator. It leaves us at the north pole. With its diameter of about forty feet the Earth presents a really imposing appearance. It turns—sometimes. When this slow movement makes to file under the feet of the spectator "the great silent country," the first impression is startling. A spiral staircase leads to the opposite pole, and as we slowly descend it, colored wires permit us to trace on the revolving globe the lines of navigation, of railroads, of telegraphs,

and the wanderings of famous explorers. Clusters of nails mark the principal veins and mines of metals—the color and material of the nails indicating the kind of metal. When I expressed my surprise that the great mountain chains were not brought out in stronger relief, it was replied to me that to keep the proportion exact the highest peak of the Himalayas required only an elevation of about one-fortieth of a foot. This must be very humiliating to the Alps and the Pyrenees.

Along the adjacent walls a succession of placards gives in large figures the statistics of the different countries of the world. I learned there that China has about seven miles of railroad and the American Union about 140,000, and I understood without any other comment the actual march of civilization around the globe. Commercial statistics showed me for England a figure double that of Germany and France taken together. These figures sufficed to explain the history and the policy of England. Another table recalled to me that there are nearly five hundred millions of Buddhists in the world, one-third of humanity; that increased my consideration for the bronze Buddha which smiles in the vestibule of the Palace of Liberal Arts.

Let no one exclaim over my weakness for this great plaything. By very puerile means, I grant, it suggests grave thoughts, rectifies errors, and establishes knowledge. Even to those who have no passion for our planet I would say that no theater can offer them so abundant a source of enjoyment. Let them listen to the public. One cannot imagine how many men lay bare their souls in the presence of the Earth, nor how it serves to bring out diversity of mind. You hear there actually all dialects, even those of the slightest local color; and all questions are answered. The adventurers trace out the route of a great navigator; a crowd attaches itself to the steps of a well-known traveler; bending over the balcony a company of explorers search the boundaries of Pamir and exchange views upon the disclosures of recent explorations. Other persons propose to the one on guard certain rectifications. It is thus both very instructive and very amusing to follow the people who make this circumnavigation. So humanity circles around the world.

SOME ODD FISHES.

BY THE REV. J. G. WOOD.

A FEW fishes—fortunately small—possess a venom which is as poisonous as that of the viper's fang. For this reason they are known on the British coasts by the name of the "viper-fish" or "sting-fish." Their rightful name is weever. This word is a corruption of the French name "la vive," given to it because it can endure a long absence from the water.

They have some vicious-looking spines on the front portion of the dorsal fin, but these are not the most dangerous parts of the fish. The real weapons are formed from the upper portion of the gill-covers, which are elongated and formed into sharp spines. When the fish is at rest the spines lie parallel with the body, and are nearly hidden in a sort of sheath; but when it is irritated, out come the spines, which are as sharp as needles, and with a quick twist of the body the fish directs them against any point which it wishes to attack. As it has a habit of burying itself in the sand, only allowing the head to project, it is dangerous to bathers who have not taken the precaution of wearing slippers.

Not only can the fish inflict a sharp prick, but it conveys in some mysterious manner a poison into the wound. What the poison may be no one has yet been able to discover, as there is not the least sign of any gland such as is found in the sting of the wasp or scorpion, or the head of any poisonous snake. Yet its effects are exceedingly painful, though I believe not in any instance endangering human life. Whether the injury be inflicted on the hand or foot, the limb is inflamed as far as its junction with the body, a dull, throbbing pain seeming to affect the very bones.

The fishermen say that the pain always lasts for twelve hours, and that nothing can cure it until the tide is at the same height as it was when the injury was inflicted.

The fish is indeed an odd one. It is barely six inches in length, its dorsal and abdominal fins extending almost from the head to the tail, and its mouth turned up in the most grotesque fashion, apparently for the convenience of seizing prey as it lies buried in

the sand. In France the fishermen are forbidden by law to bring the weever to market unless they previously cut off the spines of the gill-covers and dorsal fin. When burrowing in the sand, it uses its tail by way of a spade.

Now we come to two very odd fishes which have the capability of inflicting severe injury without leaving the slightest mark on their victim, and certainly in one case without even coming in contact with it. One of these fishes belongs to the ray family, and is well known by the name of torpedo. It also bears the appropriate popular names of cramp-fish and numb-fish.

This fish, of which several species are known, has the power of giving an electric shock to any creature which it may touch. The apparatus by which the electricity is produced is a double group of hollow membranous cells looking very much like those of a honey-comb and containing a liquid. Spreading over this structure is a net-work of the finest imaginable blood-vessels, accompanied by an equally complicated system of nerves, all leading to four enormous nerves which are defended by strong bony arches, and lead directly to the brain. There are altogether about one thousand of the cells. These then are the electric organs, but how electricity is produced by them is at present a mystery.

Some doubts have been expressed as to the real character of the emanation, but repeated experiments have proved that the electricity of the torpedo is identical with that which is evolved by man with the aid of acids and metals. Its object is evidently to enable the fish to procure food.

The torpedo is a wonderfully voracious being, as is shown by the contents of its stomach.

One which was lately caught off the coast of Cornwall sent a severe shock through a gentleman who put his foot on its back, the electricity passing through the thick sole of his boot. The torpedo was three feet in length, and in its stomach were two fishes, one a bass two feet in length, and the other a conger-eel two

feet six inches long. A correspondent of *Land and Water* mentions that he caught two torpedoes in the estuary of the Tees, and that in the stomach of one was an eel weighing two pounds and a flounder weighing nearly a pound. In the stomach of the other was a salmon weighing between three and four pounds. On neither of these fish was there the slightest mark, and as the teeth of the torpedo are very small and feeble, it is evident that the prey must have been rendered helpless by the shock and then swallowed whole, the teeth being quite inadequate to the task of capturing such large and active fish, as long as they retained their normal powers.

From some experiments which were made with the torpedo, it was discovered that a very slight grunting sound was produced each time that the shock was given. If the torpedo be taken out of the water, the shocks become gradually weaker, and at death they cease altogether.

Another fish with equal power of electricity is the *Gymnotus*, or electric-eel, of tropical America. In Guiana it goes by the name of "conglar," and is found in most of the rivers. Like the torpedo, the gymnotus possesses a double electric organ, one half running on either side of the spine.

I have not been able to watch a living torpedo, but I have frequently studied the ways of the gymnotus, a fine specimen having lived for a considerable time in London. When a living fish was put into the tank, the gymnotus, though blind, became conscious of its presence. It would wait until the fish drew near, and then curve its body sideways, appearing to stiffen when in that position. Suddenly a shudder seemed to pass through its stiffened body, and simultaneously the victim turned on its back paralyzed, if not actually killed by the shock.

In its own country it is often so plentiful as to become a nuisance to travelers. In many of the rivers there are shallow rapids up which a boat cannot be propelled by paddles, but must be hauled up by manual labor. In the rapids of the Cutari River the gymnoti are so numerous that they have been known to disable with a touch on the shins the natives who were dragging the boats, so that it was necessary to lift the sufferers out of the water and allow them to lie in the vessels until they had recovered from the shock.

These strange eels are very good to eat, but

the natives are afraid to touch them until they have exhausted their powers. They therefore employ the ingenious device of driving a number of horses into the river, and inducing the eels to discharge their electricity upon them until the supply is exhausted for the time. A similar device is employed when the natives are about to ford a river which is known to be infested with the electric eel. The horses suffer terribly, and are sometimes drowned. The natives, however, being semi-savages, care nothing about inflicting pain, and even if some horses should be killed, the animals are so plentiful as to be practically valueless. For a full account of this singular use of the horse I must refer my readers to Humboldt's brilliant narrative. The horse not being an American animal, but having been introduced by Europeans, I wonder how the natives managed to disable the gymnotus before the horse was imported from Europe.

Another fish of similar though feebler powers is the electric siluroid of the Nile and sundry rivers of the west coast of Africa. The electric organs extend over the whole body, but are very feeble when compared with the torpedo and gymnotus. The natives eat the fish and have an idea that the electric organs are peculiarly strengthening. They do not, however, eat the organs in question, but burn them and inhale the smoke.

It has been suggested that one object of this electric power may be its use as an aid to digestion. It is well known that decomposition is exceptionally rapid in animals which have been killed by lightning; and experiments have proved that where the torpedo has swallowed fish which have not been killed by itself, digestion has been comparatively slow. I may here mention that three insects known to be capable of inflicting electric shocks when touched. The first is the common wheel-bug of the West Indies (*Reduvius serratus*). One of these insects was caught by the late Major-General Davis, R. A., and placed on his hand. It immediately inflicted on him an electric shock like that of a Leyden-jar, which he felt as high as his shoulder. Six marks were left on his hand where the feet of the insect had stood. Another electric insect belongs to the skip-jack beetles (*Elater*), and another is a large hairy caterpillar of South America, which inflicted such a shock on its captor that he lost the use of

his arm for a time, and even his life was endangered.

Still odder fishes than either of these three electric beings are to be found in the newly discovered light-producers called the lantern-fishes (*Astronethes*), and the phosphorescent *Opostomias*, both denizens of the deep seas, and captured by the *Challenger*. These marvelous fishes possess certain phosphorescent organs on different parts of their bodies, and have moreover the power of emitting or shutting off the light at will.

The lantern-fish has on the forehead a sort of bull's-eye lantern, some luminous organs just below the eyes, and a row of similar spots along each side. The *opostomias* is, if possible, even more wonderful. It has not the lantern on the forehead, but it possesses very large luminous spots under each eye, a double row of similar spots along the sides, and a number of perpendicular streaks on the back. As if to compensate for the want of the head-lantern, this fish has a pair of long, slender, and worm-like tentacles attached to the lower jaw, and at the end of each tentacle is a lamp like that on the forehead of the *astronethes*. The wildest imagination would not have dared to conceive such wonderful beings—creatures which carry out in visible form the literary axiom that "truth is stranger than fiction."

A luminous fish of the upper seas, the luminous *Scopelus*, was discovered some years ago by Mr. Bennett. He had taken in his net a number of luminous medusæ, and was astonished to find that among them were some luminous fish belonging to the genus *Scopelus*. They were little fishes, about three inches in length, and presenting when dead no points which seemed particularly worthy of notice. But during their life they were indeed entitled to take rank among the odd fishes. Here is Mr. Bennett's own description, slightly condensed:

"Each side of the margin of the abdomen was occupied by a single row of small and circular depressions, a few similar depressions being scattered on the sides. When handled or swimming, they emitted a vivid phosphorescent light from the plates or scales covering the body and the head, as well as from the circular depressions which present the appearance of so many small stars spanning the surface of the body. The luminous gleam (which had sometimes an intermittent or twinkling character, and at others shone

steadily for several hours) entirely disappeared after the death of the fish."

What may be the object of these phosphorescent organs is at present a mystery. It has been conjectured that the light is intended to attract the smaller animals on which it might feed. There is, however, a very obvious reply to this suggestion, namely, that the light would equally attract larger fish by which it might itself be eaten.

In strange contrast to the light-producing fishes is the blind cave-fish (*Amblyopsis*) of America. It inhabits the waters of the great Mammoth Cave of Kentucky, where total darkness has reigned ever since its formation. Under such conditions eyes would be useless and therefore the creature is absolutely blind, its eyes being reduced to the merest rudiments and their places scarcely indicated. As might be expected, the whole of the fish seems blanched, its color being nearly white.

A similar modification of the visual organs and color is found in the *Proteus*, a singular white, long-bodied and short-legged, crawling batrachian which inhabits the grotto of the Magdalen at Adelsberg. This grotto is, like the Mammoth Cave, absolutely dark, and in consequence the *proteus* is eyeless, though like many other blind creatures, it has a strong aversion to light. One of these creatures, which I have frequently seen, was brought from Adelsberg by Dr. Lionel Beale, and lived for five years in a small vessel kept carefully darkened.

We have seen some odd fishes which capture their prey by means of electricity. There are several others which have recourse to means scarcely less wonderful.

One of them is the archer-fish (*Toxotes*), one of a very remarkable group of exotic fishes. Although fish, and living wholly in the water, they can yet capture flies or other insects which settle on the plants that grow upon the banks of rivers. This they do by waiting until the insect settles on a leaf or flower that overhangs the water. They then shoot from their mouths a stream of water which knocks the insect into the river, where it is at once captured.

Another small group (*Chactodon*) which possesses similar powers inhabits the Indian and Polynesian Seas, and is remarkable, not only for its insect-killing propensities, but for its singular form. The body is circular, nearly flat, and the jaws prolonged so as to form a sort of tube through which the water

is ejected. Several species of *chaetodon* are found on the shores of Japan, and are in much favor as pets, their owners keeping them in bowls full of water and presenting them with flies on the end of a stick. Many of these fishes are adorned with most brilliant and striking colors, the body and fins being traversed by broad bands of black across a golden yellow ground.

Then, there is the *Epibulus* of Java and Sumatra, a fish which seems to have no popular name. Externally, it presents no special point of interest, but, if it be watched while feeding, a most remarkable structure is manifested. It lies quietly awaiting prey until a small fish happens to pass near. Then, in a moment, the mouth is suddenly protruded to a distance of several inches, and the unsuspecting fish seized and devoured. The entomological reader may remember that the larva of the dragon-fly captures prey in a similar manner. The mechanism by which the feat is accomplished is a very marvel of beauty and simplicity, and is due to the modification of certain existing elements.

The skull of a fish appears to consist of many more bones than are found in the human head. The real fact is that the centers of ossification by which bones are developed are not fused together, as is the case with those of the higher animals, but remain separate through life, and are called by appropriate names. The bones of the skull by which the projection of the mouth is accomplished, are termed "intermaxillaries," and in this fish are flattened and greatly lengthened, gliding backward and forward in grooves, and carrying at their extremity the elastic cartilage and membranes of the mouth. I have found that the common herring has a similarly constructed mouth, so as to enable it to seize fishes of considerable comparative size.

Lastly, comes the angler, or goose-fish, fishing-frog, toad-fish, wide-gab (*Lophius*). It seems to have been made for no other purpose but to swallow and digest prey, being composed of an enormous rounded and flattened head, a mouth which occupies nearly the whole of the head and just enough body to contain the stomach.

It is but a slow moving fish, and therefore needs some special appliance by which it can attract prey within its reach. This apparatus consists of three long and slender spines upon the upper part of the head. They are mov-

able to almost any extent, their mobility being due to a structure which, I believe, is unique among the vertebrates. The base of the spine is rounded, flattened, and then pierced so as to form a ring. A staple of bone is affixed to the upper part of the skull, and through this staple the ring passes, so as to allow of free play in any direction.

The angler has a habit of lying close to the ground in sandy bays, so that it can hardly be distinguished from the sand on which it is lying. Meanwhile, the spines are continually waved about, the fleshy filaments at their extremities looking like worms, and serving to attract other fish within reach. So successful is this strange mode of capturing prey, that from the stomach of an angler-fish there have been taken nearly eighty herrings, all so uninjured that they were sold in the market; and from another were taken twenty-one flounders and a john-dory.

It even catches the destructive dog-fish, and therefore on the British coasts when it is captured by accident, it is released unhurt and returned to the sea. In the museum of the College of Surgeons, Dublin, there is a most interesting group of skeletons. One is of an angler-fish only thirty inches in length. In the stomach is the skeleton of a codfish two feet long; within the codfish are two whittings, and within them several smaller fish.

Sometimes the angler-fish is more than five feet in length and weighs nearly a hundred pounds. In one case, a gentleman living in Guernsey had caught with a bait of sand-eel a black bass. Before he could pull it in, the bass was seized by an angler-fish and though actually longer than its captor, was swallowed entire and without injury.

Another group of odd fishes are those which are furnished with a mechanism by means of which they can adhere to smooth surfaces without needing to employ any muscular exertion. These fishes can be entitled "suckers," and are mostly inhabitants of the sea. Their most perfect type is the celebrated sucking-fish, *Echeneis remora*, both names referring to the old legend that if a sucking-fish adhered to the hull of a ship, no amount of sail could move the vessel a single yard. The Greek word *echeneis* can be literally translated as a ship-holder, and the Latin word *remora* signifies delay.

In these fishes, of which there are several species, the sucking apparatus consists of an oval disc placed upon the upper surface of the

head and extending backward beyond the pectoral fins. In some species it reaches as far as the middle of the back. The disc is flat, is slightly hollowed, and contains a double row of transverse laminae, or plates, of a harder material. These plates can be raised or depressed at will, and by their action, conjoined with the pressure of the soft, pulpy circumference of the disc, a vacuum is formed or destroyed at will. The number of the plates varies in different species. In a specimen now before me there are twenty plates on each side of the disc.

These creatures are in the habit of attaching themselves to larger fishes, and my own specimen was taken while still adhering to a shark which was captured off Port Costa.

In Ferdinand Columbus' history of his voyages there is a singular account of a mode of fishing which was in his day practised by the natives of Cuba. They captured some of the larger species of sucking-fishes, and attached a line firmly to the tail. They then took their aquatic falcons, as we may term them, to any spot which was frequented by large fish, knowing that they would be sure to attach themselves to one of them, when both were hauled in together. He saw a turtle captured in this manner, and mentions that

he has seen the "reves," as he calls them, fasten upon large sharks. Many other fish with similar powers of adhesion are found in almost every sea, but in them the sucking disc is placed on the under surface of the body, and nearly in front. In one group appropriately termed *Cyclopterida*, or disc-finned fishes, the sucking apparatus is formed from the two pectoral fins, which according to F. Buckland, "are large and broad, and beneath them is the part by which the animal adheres to the rocks." The typical species of this group is the common lump-sucker, sometimes called from its quaint appearance, the sea-owl. The male is remarkable, like that of the stickleback, for the magnificent colors which it assumes during the breeding season. Here is Frank Buckland's account of a lump-sucker weighing eleven pounds and a half: "The sucker in this specimen is two and three quarter inches in diameter, and has most delicate fringe-like edgings. Even after death this sucker retained its powers. After casting the fish and having cut out the sucker, leaving the thick side-bones under the gills, as it were for handles, and having wetted the window-sill, I placed the sucker flat on it, and it was just as much as I could do to pull it off vertically, but there was not the slightest resistance to any side movement."

THE BEAUTIFUL AND THE USEFUL.*

BY DR. DAVID SWING.

STANDING before so practical an assembly, it gives me great pleasure to speak regarding "The Beautiful and the Useful," because they are the two great impulses of human life. The tide of humanity is always moving at the bidding of either the beautiful or the useful; and I shall treat the theme historically, because everything which we have or are, has come down to us by a long path of history. The profession of the law; the profession of the pulpit; the school-master's profession; and the editor's profession have been built up in the past thousand years. We have nothing of our own.

We assemble here to-day in the name of a circle of fine arts, no one of which any of us

ever invented. We assemble in the name of political ideas, not one of which any of us discovered. We come together speaking a language, no word of which has been added to it by any one of us now living. So everything has come down through the long path of history, and thus have come to us gradually the useful and the beautiful.

The beautiful comes first in the order of nature. Many of our young persons suppose that the beautiful is the culmination of life; but just the opposite is true. The useful is the culmination of human thought and human effort. The child in his cradle will reach out after the decoration, after the bouquet of flowers, or a brilliant ribbon. The savages in the West are all ornamenting themselves, but they are not seeking nor finding the paths of utility. Every Indian man and

*Oration prepared for C. L. S. C. Recognition Day, August 21, 1889, at Chautauqua, N. Y., by Dr. David Swing, of Chicago, Illinois.

woman is seeking decoration. What feathers, what beads, what paint, are required to construct the modern squaw or warrior of the West! A few years ago one of our officers, wishing to pay off and discharge a military company of Indians, found on calling off the roll that no Indian had a prosaic name; each one had a poetic name—"Swift Arrow," "Swift River," "Mighty Cataract," "Wind-in-the-Face." After calling a number of names, he called out for "Soaring Buzzard," but no Indian stepped forward to secure his hundred dollars. One of the whites stepped up to the paymaster and said, "We call him 'Soaring Buzzard,' but his name is 'Soaring Eagle.'" The paymaster called for "Soaring Eagle," and he immediately stepped forward to receive his pay. The logic of this is that he would not be called a soaring buzzard for a hundred dollars, whereas men in Chicago or Chautauqua would allow themselves to be called that name for two days for that amount. After each Indian received his hundred dollars he revealed his utter want of utility, because each went and bought a pair of kid gloves, some bought silk hats, and two or three of them bought ladies' bonnets and wore them, never having seen women wear them, and they tramped around with the ribbons floating beautifully in the breeze. Captain Speke traveled through Africa and never found an Indian tribe that was not studying decoration. He found one tribe of Indian girls that wore iron jewelry—sometimes as much as a hundred pounds to the single girl; but he found that in the same tribe that beauty lies in stoutness, and the more a girl weighed, the lovelier she was. He found some of the girls so lovely that they could no longer sit up, but were lying in splendor on tiger or lion skins; whereas the American belle in full style cannot sit down, the African cannot sit up.

This is the sentiment originating with the human race and extending as the human race went forward, and it blossomed out into five great arts,—architecture, music, painting, sculpture, and literature, and in some one or all of these various forms it held the world subject for thousands of years.

Greece was ruined by the exclusive study of beauty. Greece omitted utility. It never grasped the great ends of politics or religion or social life, but failing to see these, studied the architecture, sculpture, painting, music, and the gracefulness of the human form.

When Xerxes was approaching Greece with his army, the great men of that nation were standing around on the Olympian field. There were before their eyes, chariot races, the foot race, the shooting match. A messenger came in saying that Xerxes was just over the mountains; and those Greek philosophers and statesmen resolved not to suspend the games on that account. What was worse than that, only three hundred men went to the pass at Thermopylæ to repel Xerxes, and yet still worse, when Leonidas was defending the pass, Xerxes discovered another pass through which he flung a hundred thousand men, of which mountain pass the great Greek statesmen knew nothing of the existence. There was more statesmanship in the mind of Abraham Lincoln in his brief life than in all the statesmen of Greece for five hundred years.

But passing to the great period in which the beautiful reached its culminating point, we come to the time of Michael Angelo. Next to Shakspeare, Michael Angelo's was perhaps the greatest intellect ever born in the world, and since we do not now know who Shakspeare was, whether he was Shakspeare only or Shakspeare and Lord Bacon, Michael Angelo was the greatest intellect the world has produced. But he was born in a period when only two forms of thought occupied the the human mind, one was theological thought—abstruse theological thought—and the other was that ornamental thought that decorated theology. Michael Angelo struck the world when the world asked for two things—either the abstruse theology or the external temple, the church, the cathedral, the basilic, and the paintings and statuary of the decorated church. Had Michael Angelo been born in New York in 1860, he would see before him perhaps twenty different professions. The pulpit would allure him, the lawyer's profession would allure him, the editorial claim would allure him, the military pursuit would offer its charms, the railroad interest would invite his genius; or, if all of these things failed, there remained the lightning-rod agency and the sewing-machine industry and the book-canvasser's vocation; and if in none of these did he find sufficient allurements, then some philosopher would say to him, "Go West, young man, go West." But in Michael Angelo's day only two voices sounded in his ear. One was, "Michael, either study theology of the church or decorate this

theology"; and Angelo chose the art of decoration. And, furthermore, the women of that period were all in favor of the decorative arts. Every woman of note in Florence and Rome cultivated the fine arts. Each morning, instead of taking a carriage and driving to the dry-goods store to purchase a few yards of ribbon, they would walk to where some sculptor was carving in marble or an architect was rearing a temple or a Raphael was painting a picture. There were not many of these women, but they were the inspiration of the age. In Angelo's day there were women who could recite all of Virgil or all of Homer from memory. Sometimes the artist would be in love with some one of these conspicuous women and was thus inspired by that sentiment; and to be in love with some noble woman in those days was as natural as it is for us to be a Democrat or a Republican or even a Mugwump.

Dante constructed one of the noblest books of literature out of his attachment to Beatrice. And when he received any kind of favor from Beatrice he would call together his great gentlemen friends and read to them her note or show to them her present. He was found sometimes sitting on the steps of her palace waiting for her to return and would ask any passer-by, "Have you seen my Beatrice anywhere about town this morning?" Think of some young man at Chautauqua or New York sitting upon the doorstep of his prospective father-in-law and in a business kind of way asking of a passer-by if he had seen his Beatrice anywhere that day. Women, therefore, inspired that period, and drove it forward toward the fine arts. But in this long period, reaching up to the sixteenth century, there was no great development of the useful.

The land of Greece failed because of its exclusive study of decoration. Rome failed because of its devotion to military splendor and fine arts. There was no study of the wants of the people.

At the beginning of the sixteenth century there sprang up a development of the useful. The difference between the beautiful and the useful is this: The beautiful is a sentiment; the useful is a thought. The useful is the discovery of the great end and of the good way of arriving at it—the great end of the individual life or the nation's life. This definition places it beyond the reach of the infant, the Indian, and the savage, and makes the useful depend wholly upon the method of thought.

It requires thought to devise the good end and the discovery of a good way of reaching it. The railway which lies near your city is a good way for carrying around men, but that does not make it useful. It must also carry men on good errands or to a good destination. If your railroad were to undertake to-morrow to carry men to a prize fight, it would be utterly worthless, because men going to a prize fight would be wicked. Men going to a prize fight ought to walk through deep mud. Men going to a prize fight should all die on the road.

So the useful consists in a good way of reaching a good end. This makes it necessary that the useful be attained only by an age full of thought. Lord Bacon heralded the useful just about as Washington heralded liberty. Bacon did not create the useful, but stood in the midst of it and developed it. He became its speaker, its poet, its prophet. Previous to Lord Bacon the scholars of Europe were all engaged in abstract thought about themes that had no application to human life. Lecky says that sometimes in Europe there were five thousand scholars gathered together in woods and camps for discussion and thought upon themes that had no application to human life. One of their favorite themes was the nature of the human spirit and as to how many spirits could probably dance upon the point of a needle; and they would also inquire what kind of a club Cain killed Abel with—whether it was hickory, oak, or sassafras; and one of those philosophers wrote twenty essays on the probable height of the Virgin Mary, the probable size of her hand or foot, and the probable color of her hair. They thought it disgraceful to come down to the common affairs of life.

And while the men were doing this kind of thinking, the women were slaves, doing the drudgery; and this reaches over the pagan and Christian world up to the sixteenth century. Xenophon thought the duty of the wife lay in keeping her husband's clothes mended and clean. Up to the sixteenth century the women plowed the ground with a crooked stick, the men being far above the consideration of doing the plowing. The woman cut the grain with a kind of case-knife; she threshed the grain with a club; she ground the grain with a couple of rocks; she baked the bread in the ashes. And the great man in the meanwhile was

busy about the definition of spirit or the origin of the human race or about the nature of the Deity or the nature of the devil. Into that world came Lord Bacon simply to turn the attention of men to what are called the common laws of human life. The Baconian philosophy is about as follows: We will suppose ourselves to be standing near London in the sixteenth century, and Lord Bacon is with us, and Plato, the Greek philosopher, is with us, and some of the theological schoolmen are present. A man passes, going up to London with a cart-load of cabbages. Now, the Greek would not see the horse nor the cart nor the cabbages; but he would ask whether the man is an ideal man, whether his forehead is one-third of his face, and his nose a third, and his lips and chin a third, or Plato would ask, "What is a man?" One would declare man to be an animal, having two rows of teeth. Some other philosopher would say to Plato, "A dog has two rows of teeth." So Plato would say again, "What is a man?" Another would say that "man is an animal having immovable ears." Some other Greek philosopher would say to Plato that a "mole has immovable ears, and besides, some men can wag the left ear." Plato says finally, "Man is an animal having two feet." Some philosopher replies that "would not do, for a chicken has two feet." Finally Plato says, "I have found it. Man is a bird without feathers." The muddled schoolman looks at this crowd and pageant and inquires whether man was probably foreordained to life or death, whether he was totally depraved, whether he has two natures or not—one that works upward toward the heavens at times and another that works downward. But neither the Greek nor the scholastic would ever come near human life. Bacon looks at that scene, and for the first time in the history of human thought, he confesses the existence of the cart and the wagon road, the horse and the harness and the cabbages, and he says, "O, foolish human race, why do you not let the angels alone and make a good wagon-road?" He says, "Why not feed that horse? The collar is made out of straw, the harness is tied together with strings. The Queen of England has just found her chariot mired in the mud and has stood in the fence-corner while her courtiers pry it out. Why not make a good road?"

This is the Baconian philosophy—the study

of the phenomena of the difficulty and the educement from the phenomena of general laws. After Bacon had unfolded this philosophy man began to leave the upper air alone and study the surface of the earth, and out of this philosophy came wooden rails on which cars were drawn out of the coal mines. They found that one mule could draw four or five cars with wooden rails. Reason made them substitute iron rails. Further thought finally made them substitute the locomotive. The steamship began to cross the sea, the spinning-jenny sprung up, the reaping-machine came, the sewing-machine came. Long before this the printing-press had come. The telegraph came. But these were feeble modifications of the useful compared with the unfolding of liberty. Liberty is that form of utility which distributes happiness to the millions. Happiness was once supposed to be for the king and the royal family. They discovered that happiness and property were to be for the millions. Then came general education; education handed over to the millions; and out of this Baconian philosophy there rolled the great volume of progress on in the seventeenth, eighteenth, and nineteenth centuries.

Now, this Chautauqua Movement is only one more form of what may be called thought, poured into human life. Advanced thought has made education extend beyond the years of youth and has made it run parallel with our life. Men and women of gray hair are now following courses of education, because thought has made all life a unity. And, whereas in the former centuries, woman began to withdraw from the world when she reached about the age of forty years and to take her place at one side as though life was ended, she now looks upon her gray hair as honorable; and when the flowers fade from the cheek, new flowers—those of language, those of love, those of religion, begin to spring up from the heart and the latter glory of the life is better than the first. We have all lived to see an age in which gray hair is beautiful.

I congratulate you all upon having reached an age in which the beautiful remains as only an ornament of life and not the whole of life. That, as the vine can ornament the cottage, but cannot keep it up, cannot be a wall or rafter to it, so beauty may ornament life, but can never be the great columns nor foundations upon which life rests.

CLASS POEM: THE ARGONAUTS.

1885-1889.

BY EDITH M. THOMAS.

*Motto: Knowledge unused for the good of others
is more vain than unused gold.*

CLASS FLOWER—THE DAISY.

WHAT Homer sang shall only poets store,
What Plato thought shall only sages learn,
While the full currents which the ages pour,
From common thirst, a stream diverted, turn?

Nay, now the book is in the toiler's hands;
By cottage fire the youth shall linger late,
While bold Ulysses wrecks on wonder strands,
Or Athens' master dies unmastered great.

Be thanks to such as cause the springs to burst
In desert places, from the smitten stone;
But more be thanks to those who waken thirst
In lines where happy thirst was never known.

Be thanks to those who quicken Youth's desire
To drink and live—but more to those who teach
That not with Youth shall term of growth expire,
Nor the Soul slacken in her forward reach;

But they whose gladdening eyes are yet undimmed,
And they whose brows are scored by Time's rude share,
Alike should keep the searcher's taper trimmed,
And each with each what he hath seen compare.

Lo, here!—as in the mid-age of the world,
One quest once drew both Age and tender Youth
To eastward fare with banners wide unfurled—
Such throng to-day, but their crusade is Truth.

As when evangel warmth and splendor beam
Full on a land, and child and parent kneel,
Together kneel, beneath the chrismal stream—
So these to-day, one touch, one motive, feel.

This flower with golden heart and silver rays,
This meadow bloom, their emblem fair appears,
To speak the glow that round Youth's pathway plays,
The whiter light that comes with growth of years.

EDITOR'S OUTLOOK.

THE CHAUTAUQUAN.

WE send to our patrons this month THE CHAUTAUQUAN, but it has no likeness to its predecessors save in name and purpose. The conventional magazine form takes the place of the pamphlet form. The number of pages of reading matter are more than doubled. Twelve issues make the volume instead of ten. New type adorns the page. Wire stitching has been substituted for thread. The whole is enclosed in a new cover of attractive design. By comparing THE CHAUTAUQUAN in the present style with former issues our readers will find that they will receive each month fully one-fifth more matter than ever before. Add to this monthly increase in quantity the fact that two issues more will be made each year, and an idea of the increase in quantity of matter will be clear. The price of the magazine hereafter will be \$2.00 per year. This increase of 50 cents has been made possible by taking 50 cents from the cost of the books in the C. L. S. C. course. Readers will pay \$7.00 as heretofore for their reading matter, but they will get for their money in addition to what they have had before, the stimulus of an enlarged and enriched magazine.

THE WORLD'S FAIR OF 1892.

No one can seriously question the propriety of celebrating the fourth centenary of the discovery of America by Christopher Columbus. The Scandinavians among us have made some opposition on the ground that America had been discovered long before by men of their race; and they allege that the Genoese navigator made use of information gathered by him in Iceland, the home of the earlier discoverers. If all that the Scandinavians affirm were admitted—and material parts of their contention are still denied—yet it remains true that the earlier discovery came to nothing, while the voyages of Columbus led to the transplanting of European civilization and its new growths in the Americas. Nor is it material to the practical aspects of the matter that Columbus never set foot on the main-land of America. It is still true that his landing in

the West Indies in 1492 led to the discovery of our fair continent. The opposition becomes frivolous when it affirms that Columbus thought he had found the other shores of India. The main fact remains that Europe came here in the wake of Columbus.

The real question now is, Where shall the celebration be held? Three great centers present high claims. Washington City contains the stores of archaeology which we have collected as a nation; and at no one point can we show to the intelligent foreigners so much that illustrates our national history and our progress as a people. But Washington is hot in summer, poorly supplied with railroads, and could scarcely house and feed the world.

Chicago presents a contrast to Washington both in what it can give and what it cannot give. Its seventy railroads make approach easy for the millions of visitors; it can entertain the multitudes; its summer climate is inviting, but its collections of the fruits of American research are very meager. The city itself is a miracle to see, but is rather a product of the last fifty years than of the four centuries of Columbus. It may be said for Chicago, however, that it is central to our own people, and if the festival was purely national, Chicago could gather more Americans than any other city. But the celebration is designed for the instruction and entertainment of mankind; we invite the Old World to unite with us in honoring the event which transferred European humanity and civilization to this continent. We ought to consider the convenience of Europeans.

New York City presents a combination of attractions. It is our greatest city and its own history goes back far enough to give a fair view of American growth. It is the meeting place of the Old and New Worlds. In its markets we exchange our goods and our thoughts. It has ample means of approach from the outside for both worlds, and no one questions its capacity to provide for the wants of all comers. There are some grave objections. The political life of our metropolis is such as to create a fear that a Government appropriation may become a disgraceful job.

But this need not be if the distinguished citizens of New York will give the matter the attention and oversight which we have a right to expect at their hands. Other difficulties in New York can be overcome. It is objected that the internal means of transit are overworked to serve the daily wants of the city and that New York must ruin a park to provide a fit and roomy place for the exhibition. These matters New York can settle if proper efforts are made by her public-spirited citizens. We could wish that New York were more distinctively an American city. It is too full of fresh importations of all sorts from the older lands. We would like to read more English-American names on the street signs and in the directory. But Chicago is no better in this respect—no more American in population—though it is more American in its temper, manners, and life. On the whole, our balances incline in favor of New York; but Washington or Chicago would probably serve the purpose in a more satisfactory way than New York is at present disposed to admit.

EMINENT MEN AT THE ASSEMBLIES.

THE Assembly season just closed has been one of surprising prosperity in all parts of the country. To begin at Chautauqua: in no year of its history have its departments reached so high a mark of success. The program was magnificent, fully \$40,000 being expended on it; the attendance was unprecedented, some \$40,000 being received at the gates; the patronage of the College, Teachers' Retreat, and special classes increased on an average 40 per cent. At other points in the Assembly system the growth was proportionate. The new Assembly at Council Bluffs and Omaha reports an audience of 6,000 persons as no unusual thing. At Georgetown, Texas, the first Assembly was held this year, and the citizens showed their approval by donating 200 acres of land and \$10,000 in money. At several other Assemblies new buildings were dedicated, as at Bay View, Mich., Waseca, Minn., Silver Lake, N. Y., and Monterey, Cal. Many announce new buildings for the coming year. One Assembly, Mountain Lake Park, was even graced by the presence of President Harrison himself.

The attention which the press of the country gave the movement was never so great. Not only did the Associated Press send out daily dispatches from Chautauqua, and the

neighboring cities of Buffalo, Cleveland, Pittsburgh, and Rochester employ regular correspondents, but that great metropolitan daily, the *New York Tribune*, kept one of its ablest men on the grounds for the entire season, and printed daily letters from one half to two columns in length. The Assemblies at Topeka, Kansas. Crete, Nebraska, Lexington, Kentucky, and those at or near other large cities received from one to six columns of space daily in the leading papers. The weekly religious and educational press of the country printed letters from various points in every issue during the season.

There is but one meaning to all this: the Assemblies are increasing in attractiveness. Much of this desirability comes from the fact that a growing number of eminent people are willing to associate themselves with the work, not alone as speakers and teachers, but as elements in the life and society of the place. Consider the make-up of society at Chautauqua during the last session. Prof. J. P. Mahaffy, Mr. Donald Mitchell, Prof. H. H. Boyesen, Mr. George Cable, Mr. Richard Malcolm Johnston, Dr. F. W. Gunsaulus, are a few of the leading names on the program. But all these gentlemen were down for more than a single appearance. Prof. Mahaffy was nearly a fortnight the guest of Chautauqua. The others were present several days each. Besides those mentioned the College of Liberal Arts brought into the community for a residence of six weeks about thirty professors from the best educational institutions in the country, including such men as Drs. Harper, Adams, and Ely; the special classes, the School of Music, the Teachers' Retreat, the Normal Union, all brought into this summer city desirable and stimulating social elements. The same result was observed at other points. Weirs had Edward Everett Hale as a resident. Bay View, Montezuma, Silver Lake, and Monterey had the large and fine faculties from their summer schools, the department leaders, and the lecturers who delivered courses.

This residence for a longer or shorter period among the people is doing much to help the intellectual and social tone of the Assemblies. Where persons appear on the platform but for an hour, not circulating among the people at all, the only influence they exert is through what they may say in a lecture. This may be very great; often is, but it is the thought of the man, not his personality nor

his achievements, which interest the auditors. There is a wonderful educating influence in personal contact. Illustrations of this are conspicuous at the Assemblies, especially at Chautauqua. In the last summer, Prof. Mahaffy's presence set scores of people reading his "Old Greek Life," "Rambles in Greece," and "Art of Conversation." "Dream Life" was the most popular book at Chautauqua during Mr. Mitchell's visit. "Knowing the author" is a wonderful stimulus to reading. The effect on conversation is pronounced. Again an essential step in the education of a person who comes from humble ranks, is learning that people of high attainments are subject to the same laws of growth and accomplishment as themselves. The recognition of this has been a common experience from the associations of the Assemblies and it has frequently awakened self-respect and ambition.

A great gain which comes to the Assemblies from securing superior talent and keeping it for a period is the influx of cultured and educated persons which is sure to follow and by which society in general is enriched. These persons may have no interest in the educational ideas for which the Assemblies stand, but they realize the value of contact with the scholarly and literary and are glad to go where they can find them. The lecturers and teachers, too, are coming to look upon going to the Assemblies as a privilege, since in no other place can they secure such rich associations. A popular speaker who had held a large audience through a series of historical lectures at Chautauqua, said in our presence to Prof. Mahaffy: "I have enjoyed a week of your society. I feel that it has been one of the opportunities of my life." He had given much to Chautauqua—but Chautauqua gave him much in return. These fine influences are frequently unrecognized; nevertheless they are among the most potent which are operating to recommend the Assemblies. They are sure to intensify with the years. Assembly leaders will be wise to foster them by bringing into the daily life of the gathering as many eminent men as possible.

THE NATIONAL FLOWER DEBATE.

TWENTY years ago a gentleman who ventured to wear on the street a flower in his button-hole, would have been regarded as a trifle eccentric. To-day we are decidedly a flower-

loving people. We wear flowers everywhere; they fill our homes, their fragrance and beauty add a sweet dignity to our churches, and they brighten the notable days of every life,—birth, marriage, and death. We spend more money on flowers than any people in the world, and yet we have no national or patriotic flower, no floral emblem like the rose of England or the shamrock of Ireland. For that matter we love music and yet have no national song.

Within the past few months a number of persons have suggested that we really ought to have a national flower, and in a spirit of kindly wisdom have told us in the newspapers just what flower we should take. The distressing part of the business is that very few of these emblem-suggesters are of one mind. Even the florists at their national convention recently held at Buffalo could not agree upon a flower, though the sunflower seemed to be their favorite. The following flowers have already been suggested: the violet, kalmia, mayflower, red clover, golden-rod, the bloom of the tulip-tree, and the apple-blossom. Each of these has more or less sentiment connected with it, from the modesty of the violet to the staring effrontery of the sunflower. Each, in its way, would be useful as an emblem, as the artists would say, is capable of artistic treatment, or, as a florist might say, would make up well. Something has been said in favor of each of these flowers and of a number of other flowers that might answer the purpose. For instance, Indian corn has been suggested for the reason that it is one of our great staple plants and has already been used as a decorative emblem by both the state and national governments. At the same time we could hardly wear a corn tassel in the button-hole. The wonder is that some one has not thought of the *nicotiana glauca*. One half the nation already carries this flower about in a way that is truly American.

As far as can be learned, the golden-rod appears at present to be the general favorite, and the sunflower is not far behind. It is now an interesting question as to how the matter is to be settled. A number of things have to be considered. It should be a flower that can be worn on the dress or carried in the hand. It should lend itself kindly to artistic treatment—in other words be decorative. It should also be fragrant—it is curious to note that the sunflower is neither fragrant

nor convenient, though it has been used as a theme for art work of a certain kind. The apple-blossom seems to offer every advantage just as the Indian corn seems to offer so few. The violet would never do. Nothing of the violet about our people. The mayflower is too local. The kalmia, the mountain laurel, and the locust-tree would have to be introduced to half our people, for they are comparatively unknown.

The question is whether it ever can be settled except by events. Some great national event may yet be associated with some flower and that flower will be instinctively selected, perhaps without a thought of why or how. We have no national song. We shall not have one until it is born of our national life. Some day hymn and flower may come together. They will be accepted when they come.

THE RELATION OF THE LOCAL CIRCLE TO INDIVIDUAL READING.

THE Chautauqua Literary and Scientific Circle was devised for individual readers. The local circle was a second thought. There is danger that this order will be reversed and the local circle will be put before the individual reading. There is a possibility even that the local circle will be regarded as indispensable to successful C. L. S. C. work. Both would be blunders; for the circle is secondary to the reading and dependent upon it. It is designed as a help; by no means as a necessity, and never as a substitute. It is a help, too, which must be taken with discretion. At a Round Table at Chautauqua last summer it was suggested by Chancellor Vincent that there might be disadvantages in circles, and the experience of the members present was asked. Several points were made:

- (1) The reading of the individual is likely to be restricted by the local circle.
- (2) Graduates wishing to read special courses are restricted.
- (3) Time is wasted in preparation for and attendance upon them.
- (4) Some in the local circles are thereby induced not to join the central.
- (5) Too much dependence is placed upon the circle.
- (6) Embarrassment.
- (7) Too much social life.

- (8) Creates caste and lessens influence.

That so much can be said against the club-idea will be a surprise to many persons, especially to those who have never been in a circle and who have supposed the loss was one without compensation. They will realize that belonging to a circle entails responsibilities which may conflict with careful reading and that it presents temptations to placing the social and intellectual association of the circle before the actual prescribed duties.

The value of reading is best measured by the reflection it incites. Henry Ward Beecher once said that with him reading induced to reflection instantly; that he did not separate the origination of ideas from the reception of ideas, but whenever he began to read he began to think in various directions. Now such should be the case with every reader. But when one is preparing a lesson for a circle, he is very apt to have in mind the performance rather than the subject. He gets what the text-books give, in order to make a respectable presentation of it, but he does less reflecting, compares less, gives himself less freedom, browses less—and with loss to himself. The greatest harm of the local circle is that it makes inferior readers. Of course it does not necessarily do so. One may be both a thorough reader and an active circle member, but it takes extra application and determination.

A mistaken notion of the relative value of the local circle and the individual reading has, we are assured, kept persons from joining the Chautauqua Literary and Scientific Circle. No one should consider circles as the object of this work. The reading is planned primarily for people who read alone. The *C. L. S. C. Notes*, the *Questions and Answers*, the *Question Table*, and the suggestions in *THE CHAUTAUQUAN* are intended to help—not clubs—but individuals. The C. L. S. C. is for self-culture. It aims to develop independence of mind, self-reliance in study. If a circle can be attended without injuring the quality of the reading or causing dependent and slovenly mental habits, well and good. It will be a help in emphasizing the knowledge gained, will give opportunity for comparing views, and will develop delightful sociability; but it is not a necessity and not always an unmixed blessing.

EDITOR'S NOTE - BOOK.

PRESIDENT HARRISON has been a generous traveler in the past summer. His presence has caused rejoicing in the East and the Middle States, and many occasions have been made never-to-be-forgotten for their projectors by his visits. The simplicity with which our Chief Executive circulates among the people is in striking contrast to the exclusive and pompous ceremonies attending rare royal visits like the recent one of Queen Victoria to Wales.

WHAT is the dominion of the United States in Behring Sea, is the first question to be asked in getting at the fishery seizures. According to International Law a nation has no control over the seas, save within a three mile limit—unless that sea is entirely surrounded by the nation's territory. This interpretation the United States put on Russia's power in Behring Sea when that country owned Alaska. When we bought Alaska, however, the treaty defined a boundary which took in most of the sea. But Congress has never insisted upon the jurisdiction which this treaty-boundary gives, being respected. The seizures are made in harmony with this limit—but does Congress approve? It should be one of the first acts of the fall to say. And in the interval war-talk is mere fustian.

It was announced last fall that the November elections showed a smaller "don't vote" party than usual. There is room for improvement. The percentage of votes cast in various states has been recently computed with uncomplimentary results, especially in New England. In Maine but sixty-one per cent of those of voting age went to the polls; in Massachusetts sixty per cent; in Rhode Island forty-five per cent. The West did better. Ninety-five per cent of the vote was cast in Kansas; ninety-two per cent in Minnesota; eighty-two per cent in Michigan; eighty-three per cent in Wisconsin.

FOR over a year a commission has been laboring with the Sioux Indians for their consent to the opening of their lands in South Dakota. It has been gained at last. The twenty-two million acres to which they have title will be divided; one half going to settlers,

one half being divided among the Indians in severalty. The friends of the Sioux believe this a wise measure. It will compel self-reliance and thrift, by the removal of the enervating reservation system, and will hasten the civilizing process. The settlers with whom the Sioux come in contact can do more to help them than the Government or missionaries, if they will see that justice is done. This course of action would be the wisest business policy for the settlers, too, for no one can be more interested in having the Indians respectable citizens than they.

THE Mt. Athos attitude toward women—in that peaceful promontory no woman ever sets foot—cows, hens, all things female are excluded—has not prevailed in the constitution-making of the four new states. The woman suffragists have received large attention. They have not reached their ends but they have proved that their cause has strong support. North Dakota agreed one day to submit the question to legislative action, but the next, demurred and voted that a popular vote must decide it. In South Dakota and Washington Territory, the question will be turned over to the people to decide in November, 1890. Montana decides upon no course, though a proposition to embody woman suffrage in the constitution was lost by a tie vote.

THE celebration, on September 2, of Labor Day was general and enthusiastic. There are two reasons for this. We have few holidays, too few, and experience is teaching laborers and labor-hirers that an occasional day off instead of reducing the quantity and quality of output, helps both. The occasion is a popular one, too. Labor is recognized as the basis of national prosperity, and the chief element in developing sturdy, honest citizens. For such reasons we do well to celebrate Labor Day.

THE last session of the American Science Association, held in Toronto the first of September, took a decidedly Canadian flavor—out of compliment to the hosts, doubtless. It was no detriment to the session. The union of Canada and the United States was dis-

cussed, the history of the abolition of slavery in Upper Canada was told, the geologic features of different regions was considered, and excursions were made to the Muskoka Lakes and the Huronian Rocks. The effect of all this will be to open the eyes of many Americans to the fact that Canada is a peculiarly interesting country in its history and remarkably rich in natural attractions.

Two important actions have been taken recently by the Executive Board of the Chautauqua Trustees. The first of these relates to the General Office of the C. L. S. C., which has been located in Plainfield, N. J., since the origin of the Circle. It will be moved to Buffalo, N. Y., at no distant day. As Bishop Vincent resides here, this change will bring the work again more directly under his supervision. The second action appropriated \$5,000 to building a reservoir, laying water-mains, and providing fire apparatus for the protection of property at Chautauqua. The summer city has become too large and its buildings too valuable to make it wise to leave it at the mercy of possible fires. The move will be popular among Chautauqua property-owners.

A FORM of Anglomania which we would gladly see general is the Englishman's propensity to tub himself. Americans, as a race, have never discovered the advantages of the bath. The increased demands for public baths and the support given them in the cities in the present year are wholesome signs, but we still have nothing to compare with the London and Paris facilities. Readers of the C. L. S. C. for the present year will have an opportunity to learn something from Rome on this point. Prof. Lanciani in his article in the present issue of *THE CHAUTAUQUAN* says the city in the fourth century after Christ contained 856 public baths. The Roman emperors carried the practice to an extent which made it an excess, Commodus being said to bathe frequently eight times a day.

A TERRIBLE outbreak of diphtheria in an Ohio town in August was traced directly to filth. It was a case of open indifference to the first principles of cleanliness. Probably out of the six hundred villagers there were at least a score who knew positively the danger in surface sewerage and ill-smelling sties, but it took pestilence to get them to the point where they could protest. Moscow is

not the only village in Ohio, nor Ohio the only state in the Union, where the inhabitants are running risks more dreadful than dwelling beside an active volcano.

HAS Dr. Brown-Séquard found an "Elixir of Life"? Nobody can say. For that reason certainly it is useless to declare that he has not. The old idea of an elixir which should restore youth is not claimed for Brown-Séquard's discovery, if he has made one. In reporting the result of his experiments the Doctor simply stated that "the effects might almost be regarded as rejuvenating." It is not improbable that his experiments will lead to something which will relieve the pains of old age, but until this is demonstrated it is rash to experiment blindly with the "glandular juice," and foolish to pronounce it a humbug.

THIRTY-THREE thousand six hundred nineteen dollars and fifty cents will be the cost of bringing into the United States the most popular picture ever owned in this country—Millet's "Angelus." This figure represents the thirty per cent duty which it costs to import a work of art. The tariff is supposed to protect industries, to increase the welfare of the country, but here is a clause of it practically destroying the opportunities for art education, which the vast wealth of the country might give if allowed to act freely. Instead of aiding artists, it is injuring them by limiting the privileges to study great works.

A PROSPECT of variation in the monumental architecture of this country is a pleasant consideration. We have many statues in various cities, most of which are as Charles Dudley Warner says of Washington statues, "pleasing to look at—in the moonlight," and we have several imposing monuments, but one of the most massive and appropriate forms of city decoration is almost unknown in America—that is the arch. At Hartford, Conn., an arch in commemoration of the Civil War has been raised. New York proposes to put into stone one of the wooden arches raised at the Centennial last spring, and now Brooklyn has appropriated \$250,000 for an arch at the entrance to Prospect Park to the soldiers and sailors of the Civil War.

"THERE are pictures everywhere," writes a traveler who had strayed into what is generally considered a barren spot of the earth.

It is a delightful truth, and the camera is helping to impress it upon the world. The hundreds of collections of picturesque spots, *genre* groups, and interesting places, which amateur photographers have brought in from their summer work, illustrate how keenly alert to the beautiful the power of "taking pictures" is making many young people. It is giving persons a delightful opportunity, too, to illustrate the records of their trips and their studies. A camera will probably soon be as an inevitable accompaniment of the industrious tourist as the note-book and field-glass.

It is little consolation to the man who must cart his produce for miles to market, who loves the carriage, the wheel, or the saddle to be told that we have the best railroad system in the world. That cannot console him for the fact that we have the worst highways. Road-making is an art that has never been learned in the United States. The farmer who would smile at using tallow-candles or threshing with a flail, goes on "making roads" by tearing up the sod at the side of the road and heaping it in the middle. He is ignorant that this is as primitive a method as carrying mail on horseback. There is but one way of overcoming the wretched roads of the country, the education of the farmers. When they understand how to have good roads the year round, they will do it.

SHAW'S Botanical Gardens have for years given to St. Louis a distinctive feature. No other city in the United States possesses anything like them, and they compare well with the finest gardens abroad. To the citizens they are a constant education and delight. The man to whom the city owes them, Henry Shaw, died in August at the age of eighty-nine. For over thirty years he has spent his time and money studying how to make his benefaction more complete, instructive, and delightful. Thousands of exotics, every flower and fruit tree of this climate, a botanical museum and library are among its attractions. A more beautiful and, helpful philanthropic scheme than Mr. Shaw's would be difficult to picture. The serene and elevating influences upon his later life of the systematic study he gave his unselfish project is a wonderful lesson to those millionaires who find themselves coming to old age

without tastes or interests to enjoy what they have gained.

THE Agricultural Department has pronounced a fearful sentence on the English sparrow. A late report of some four hundred pages declares the little fellow is "a curse of such virulence that it ought to be systematically attacked and destroyed before it becomes necessary to deplete the public treasury for the purpose as has been done in other countries." It advises fire-arms, traps and poison, the destruction of nests and the disturbance of roosting places, sparrow clubs and shooting matches as measures of extermination. Sparrow pot-pie is also recommended as a capital dish. Seven state legislatures have taken action against the English sparrow.

THE experience which various projectors of public monuments have had raising money by subscription is not easy or encouraging. The struggle to get Washington monument up is not yet forgotten. The Grant monument in New York City is languishing for funds, and in spite of the hearty encouragement given to the Washington memorial arch designed for Washington Square, New York City, scarcely \$50,000 of the \$100,000 have been raised. The dedication of Pilgrim monument at Plymouth, Mass., in August, is another illustration of the same kind. The corner stone was laid in 1859 and it has taken all the thirty years since to raise the funds to pay for the monument. Appropriations for the entire sum by the municipality or government particularly interested would seem a more direct and satisfactory way of securing public memorials.

CHAUTAUQUA has led her patrons to expect a new development each year. She has not disappointed them in 1889. The University-Extension Scheme has been launched, after more than a year's careful study and planning. This scheme proposes, in brief, to provide courses of lectures by university men on selected topics, the auditors to be given a syllabus with bibliography for each lecture and an examination to be given at the end to such as wish. The local press of the country has taken hold of University-Extension where the attention has been called to it, with considerable enthusiasm. We know of several towns in which the papers are urging clubs and circles to conduct courses of lectures.

C. I. S. C. OUTLINE AND PROGRAMS. FOR OCTOBER.

OUTLINE OF REQUIRED READINGS.

First week (ending October 8).

"History of Rome." Pages 11-21.

"Political Economy." Chapters I.-VII. inclusive.

"How to Judge of a Picture." Chapter I.

IN THE CHAUTAUQUAN:

"The Politics which Made and Unmade Rome."

"The Study of the Seasons."

Sunday Reading for October 6.

Second week (ending October 15).

"History of Rome." Pages 21-34.

"Political Economy." Chapters VIII. and IX.

"How to Judge of a Picture." Chapters II. and III.

IN THE CHAUTAUQUAN:

"The Life of the Romans."

"Child Labor and Some of its Results."

Sunday Reading for October 13.

Third Week (ending October 23).

"History of Rome." Pages 35-46.

"Political Economy." Chapters X. and XI.

"How to Judge of a Picture." Chapters IV. and V.

IN THE CHAUTAUQUAN:

"Macaulay's Lays of Ancient Rome."

"Mental Philosophy."

Sunday Reading for October 20.

Fourth Week (ending October 31).

"History of Rome." Pages 46-59.

"Political Economy." Chapters IX.—XV. inclusive.

"How to Judge of a Picture." Chapter VI.

IN THE CHAUTAUQUAN:

"The Burial of Rome."

"The Uses of Mathematics."

The Chautauquan Map Series. No. 1.

Sunday Reading for October 27.

SUGGESTIVE PROGRAMS FOR LOCAL CIRCLE WORK.

FIRST WEEK.

1. Reading—Preface to "Outline History of Rome." By Bishop Vincent.
2. Table Talk—Preview of the year's work.
3. The Lesson. (The uneven division of the work in Political Economy as laid out in the *Outline* is made that the work might be taken up by topics; first, the *growth* of industrial society; second, the *characteristics* of industrial society; third, the *definition* of political economy; fourth, the *division, methods, and utility* of political economy.)

G-Oct.

Music.

4. A drill on map drawing. (All are to follow the direction of one who on a blackboard or paper on the wall is to lay out the space for the city of Rome in squares and then proceed to locate all the principal places. See directions given for drawing map of Greece, in THE CHAUTAUQUAN for October, 1888.)
5. Reading—The Bastile, from "The Task," Book 5, beginning with the line,—
"Whose freedom is by sufferance," etc. By Cowper.
6. Critic's Report.

SECOND WEEK.

1. Roll-Call—Quotations about Rome.
2. Table Talk—News Items.
3. The Lesson. (As marked out in the *Outline*.)

Music.

4. Paper and Discussion—The Aryan race and language.
5. Reading—Selection from the description of Rome found in Chapter XI. of "Pictures from Italy." By Dickens.
6. Debate—Resolved: That the Government should abolish all restrictions on the rate of interest. (See Ely's "Political Economy," p. 79.)

ADAM SMITH DAY.—OCTOBER 24.

"The wise form right judgment of the present from what is past."—Sophocles.

1. Paper—Life and Character of Adam Smith.
2. Questions on Adam Smith in *The Question Table*.
3. A Symposium of Letters—The best method of national taxation. Each member is to write and read a letter addressed to the president of the circle, giving his views on this subject. He is to commend or censure the American system—that of protection—and show that it is either in harmony with, or in opposition to, the four maxims regarding taxation laid down by Adam Smith:
 1. The subjects of every state ought to contribute toward the support of the government, as nearly as possible, in proportion to their respective abilities: that is, in proportion to the revenue which they respectively enjoy under the protection of the state.
 2. The tax which each individual is bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor and to every other person.
 3. Every tax ought to be levied at the time and in the manner in which it is most likely to be convenient for the contributor to pay it.

4. Every tax ought to be so contrived as both to take out and keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the state.

FOURTH WEEK.

1. Roll-Call—The name and leading work of a great painter.
 2. Table Talk—Current events.
 3. The Lesson.
- Music.
4. Paper—The story of the Siege of Troy.
 5. Map Quiz, No. I. in the Chautauquan Map Series.
 6. Questions and Answers in THE CHAUTAUQUAN (part or all of them).

IN addition to, or in connection with, the regular programs, special exercises or features may be introduced. On Opening Day, October 1, a reception might be held which would form a good beginning for the year's work. During the evening the president should state the object of Local Circles in general, the plans of this particular circle, and give an outline of the year's readings, after which an opportunity should be given for members to join. A most useful diversion for the evening would be the bringing of a gift on the part of all present. Maps, pictures, books, relics, curiosities, connected with the subjects to be studied, would be most appropriate. These need not be expensive to be useful. A map from an old atlas, mounted on heavy paper with rods at top and bottom to keep it in place on the wall, serves well at least to show outlines. If there should be several of these so much the better. Books of reference or pictures simply loaned or placed at the disposal of the circle could be accepted as gifts.

THE CHAUTAUQUAN TRAVELERS' CLUB is to have its headquarters for this year at Rome, and what time can be spared from studies, researches, and expeditions connected with the regular reading, is to be devoted to making from there trips to various places on which, for the time being, general interest is centered. The route need not always be the most direct, and detours for the sake of sight-seeing will always be in order. For the present month the journey is to be to Paris. According to the plan adopted at the organization of the Club, it should comprise a guide, an artist to provide pictures and maps, a correspondent to take notes of travel, a historian, a soldier, a man of letters to call attention to the literature concerning a place, musicians, and talkers. (See plan for Club given in the *Suggestive Programs* for May, 1888.) The itinerary for trip No. 1 is as follows: Rome to Florence (Pitti and Uffizi Palaces, homes of Michael Angelo, Amerigo Vespucci, Dante,

Galileo, Savonarola, bridge over the Arno, Cathedral, Campanile of Giotto, Church of Santa Croce, etc.); Pistoja (scene of Cataline's death, begin ascent of Apennines, in 30 miles the train passes through 47 tunnels); Bologna, Modena, Parma, Milan (with their universities, cathedrals, palaces, and art collections); Turin (its destruction by Hannibal); Mont Cenis Tunnel; visit Mont Blanc and Chamouni; Lyons (Cathedral, Hotel de Ville, Notre Dame de Fourvieres, museum, silk factories found in homes of the workmen); Dijon (walls and gates); Paris (time to be spent at the Exposition. See *The Question Table* and article in the present issue.)

IN addition to the several methods for conducting circles suggested in former volumes of THE CHAUTAUQUAN (which see) are the following: An entire evening each month might be given to the study of one subject. For the present month the first evening could be devoted to Roman history, the second to political economy, the third to art, and the last to the Required Reading in THE CHAUTAUQUAN.

It would be well for each member to take upon himself a certain office to fill, such as historian, geographer, mythologist, antiquary, political economist, *littérateur*, scientist, reporter, musician, critic, etc. All questions belonging to his department should be referred to him, and it should be his duty to supply all needed information in his line to the circle.

It is often a good plan to take up in the circle only one line of the work, leaving the others to be read by each one alone. This allows a much more exhaustive study, which is more satisfactory as far as that one branch goes. Whenever this is done it is well to outline the work for the whole year at first, and take it up by topics.

FOR the benefit of new circles a few words of explanation regarding the *Suggestive Programs* are added. The emphasis is to be laid on the word *Suggestive*, and in so far only as they are helpful are they to be used. Any one who has had any experience whatever in this or any similar line of work, will readily appreciate the difficulty of making a general plan suit special cases. But with the assistance rendered by these suggestions each circle may be able to work out a program with less trouble, and with better satisfaction than without anything which could serve as a guide. Use only such parts of them as will be found advantageous, is the direction always given with the *Programs*. That may be the whole of them, or it may be no part whatever. Leave out whatever is unsuitable or too difficult to handle or to find; substitute whatever is apropos or accessible.

C. L. S. C. NOTES ON REQUIRED READINGS.

FOR OCTOBER.

"OUTLINE HISTORY OF ROME."

P. 3. "A-crop'o-lis." The citadel of Athens, a rocky hill 150 feet high, on which were built the most famous and beautiful architectural works of the old Greeks.

P. 4. "Vatican." The papal residence in Rome. It takes its name from the mount on which it is built, which is in the north-western part of the city. It is one of the most magnificent palaces in the world, occupying a space of 1,151 by 767 feet, and having 20 courts, 4,422 rooms, and 200 staircases. In it are many of the masterpieces of art.

P. 5. "St. Peter's." The great cathedral in Rome which stands pre-eminent among the churches of the world. Gibbon calls it "the most glorious structure that has ever been applied to the use of religion." It stands on consecrated ground, being the traditional site of the burial of the apostle from whom it is named. In the year 90, Anacletus, the bishop of Rome, built an oratory on this spot; in 306, Constantine erected there a basilica; in 1450, Pope Nicholas V. began the present cathedral which was not finished till 1626. "It consists of a Latin cross 613 feet long and 450 feet across the transept, surmounted by a dome which rises 435 feet above the pavement, with a diameter of 195 feet. The façade is 368 feet long and 145 feet high."

"Catacombs." The name is derived from two Greek words meaning downward and cavity. These subterranean burial places are found in every direction outside but near the walls of Rome to the number of about 60. In each there is a net-work of passages which sometimes cross one another at right angles, and sometimes radiate from a common center. The passages are commonly about 8 feet high by 5 feet wide, and the graves are in tiers on the sides. It is estimated that the entire length of the passages is 580 miles, and that the number of bodies contained is 6,000,000. The catacombs are held by some to have been originally quarries hewn out, no one knows when, but before Rome was founded. Others think they were excavated to serve as burial places. In the times of the persecutions of the Christians they were used as hiding places for the living as well as for tombs of the dead.

P. 10. On the map Roman names are used, as Neapolis (Naples), Roma (Rome), and Padus Fl. (Po River). Fl. is an abbreviation of *flumen*, the Latin word for river. For pronunciation of all proper names see table on p. 241, *et seq.*

P. 14. "Rubicon." This small river flows into the Adriatic Sea a little north of Ariminum. It is celebrated for Cæsar's passage over it. (See p. 156 of the "History of Rome.")

P. 15. "Macra." A small river flowing into the Tuscan Sea near Luna.

"Frento." A river now called the Fortore, flowing into the Adriatic north of Apulia.

P. 16. "Hannibal's oath." See p. 90 of the history.

P. 17. "Caudium." See p. 78. The four preceding fortresses named in the text-book were reduced by the Romans after severe encounters.

"Tarentum." For this and other important historical names to which attention is called, see Index of text-book.

P. 19. "Campagna." The plain surrounding Rome; it is about sixty-five miles long by forty miles broad. "It is volcanic, the lakes lying in craters, some of which, as that of Lake Regillus, have a regular conical form." The Campagna includes the Pontine Marshes, caused by several small streams having no outlet, which spread over the land. Hot sulphur springs are found in this plain.

P. 20. "Peloponnesus." Now called Morea, the peninsula forming the southern part of Greece.

P. 24. "Trojan War." Paris, the son of Priam, King of Troy, abducted Helen, the wife of Menelaus, one of the Grecian kings. To avenge this outrage the Greeks waged war against Troy and conquered it after ten years, utterly destroying it. The time of this event is generally placed at 1194-1184 B. C. Troy was located in the north-western part of Asia Minor, or in that part of Turkey in Asia, which borders on the Dardanelles.

P. 31. "*Lar'-es* and *Pe-na'-les*." The latter were "the gods who were supposed to attend to the welfare and prosperity of the family. Their name is derived from *penus*, the pantry, which was sacred to them. Every master of a family was the priest to the *penates* of his own house.—The *lares*, or *lars*, were also household gods but differed from the *penates* in being regarded as the deified spirits of mortals. The family *lars* were held to be the souls of the ancestors who watched over and protected their descendants."—*Bulfinch's Mythology*.

P. 39. "Egeria." This nymph had her abode in a grove in which a well gushed forth from a dark recess, and it was here that King Numa

used to seek her. After his death, she pined away and was changed into a fountain. Byron in *Childe Harold*, Canto V., refers to her; as does Tennyson in his "Palace of Art" in the line, "The wood-nymph, stayed the Tuscan King to hear."

The stratagem which permitted the Romans to win in the battle of the Horatii and Curiatii was as follows: Two of the Horatii, the Roman brothers, had been killed, and three Curiatii were living though all wounded. The remaining Roman resorted to flight, and as the three wounded men pursued him, he vanquished them by meeting them separately.

P. 44. "Oracle of Apollo." The temple of this god was built at Delphi on account of the prophetic influences manifested there. It was erected over an opening in the ground, from which rose an intoxicating vapor. Over this chasm a tripod was placed on which a pythia, or priestess, seated herself whenever any one wished to consult the god. As soon as she inhaled this vapor, she began speaking, and her words were considered as revelations from Apollo. (Notice Shakspeare's reference to this oracle in "Winter's Tale," Act II. Sc. I. and the chronological error in it of having the oracle consulted in regard to the daughter of an emperor of Russia.)

P. 46. "Lake Regillus." Its site is doubtful, but it has been supposed to be identical with the lake of Cornufelle, about ten miles south-east of Rome. This lake lies at the foot of a hill on which the ancient town of Tusculum stood, now called the town of Frascati.

P. 55. "*Jugera*." The Latin plural form from *jugerum*, a measure of land comprising 28,800 square feet. It is sometimes translated acre, but in that case acre must be held to its primitive meaning, an open field, and not a definite quantity of 43,560 square feet.

"POLITICAL ECONOMY."

P. 17. "Prof. Ward." (1841—.) He served as geologist in the United States national survey, 1879, and was afterward made one of the curators of the National Museum.

P. 20. "Homer." A Greek poet, the most celebrated that ever lived, author of the *Iliad*,—the story of the Trojan War,—and of the *Odyssey*,—the story of the Wanderings of Ulysses, after the close of that war. When or where he lived is not known; and much doubt has been expressed by some as to whether he ever lived at all. Many claim that these great poems are compilations from different writers, woven together in connected form.

"Cyclops." Celebrated giants, the sons of Neptune, the god of the sea. They are repre-

sented as wandering, uncouth savages, having only one eye in the middle of their foreheads. They dwelt in mountain caves and supported themselves by raising cattle and sheep. The most distinguished one among them was Polyphemus, in whose cave Ulysses and his companions had their terrible adventure, succeeding at last in putting out the monster's eye and in making their escape tied under the sheep as they were let out in the morning.

"Professor Drummond." An English author well known from his book, "Natural Law in the Spiritual World."

"Sir John Lubbock." An English banker and scholar; was elected to Parliament in 1870. He is the author of two important books, "Prehistoric Times" and "The Origin of Civilization."

P. 29. "Charles Egbert Craddock." This is the pen-name of Miss Mary N. Murfree, an American author.

P. 33. "Thucydides." (About 471-401 B. C.) A distinguished Greek historian. His fame rests on his "History of the Peloponnesian War."

P. 36. "Sir Henry Maine." (1822-1888.) Professor of civil law at Cambridge from 1847 to 1854, law member of the government of India from 1862 to 1869, professor of jurisprudence at Oxford from 1870 to 1879, and then became Master of Trinity Hall, Cambridge; the author of several works regarding law.

P. 37. "Frederick the Great." (1712-1786.) He was "a military despot . . . bent on the single purpose of enlarging his monarchy; he regarded himself as an instrument appointed to elevate Prussia and embody in the parvenu title of Prussian king that substantial possession of royal power which could only come from enlarged dominion." "He wished the Prussians to be better educated and become more enlightened, but only because he believed that thereby they would become better subjects. He wished science and art to flourish in his kingdom, but only because it would spread new splendor around the king." But by his harsh measures he caused Prussia to be universally recognized as one of the great powers of the continent.

P. 40. "Draconian laws." The laws established in early Greece about 624 B. C. by a citizen named Draco. His written code made death the punishment for even the least theft, which led to the remark by Demades, a Greek orator, that his laws "seemed to be written with blood instead of ink."

P. 42. "Mr. Alfred Russell Wallace." (1825—.) An English naturalist and biologist. He announced almost simultaneously with Darwin, the theory of evolution.

P. 50. "Utopia." An imaginary island described by Sir Thomas More in a book of the same name. He represents it as having been discovered by a companion of Amerigo Vesputci. It was enjoying the greatest perfection in laws, politics, customs, etc. Its fundamental principle was community of wealth.

P. 79. "John Ruskin." (1819—.) An English artist and writer on art and nature. He was elected professor of fine arts in the University of Oxford in 1869. He has published several courses of lectures to artisans, workmen, and others.

P. 80. "Aaron Burr." (1756-1836.) An American politician. He ran with Jefferson as candidate for the presidency in 1800, and it was only on the thirty-seventh ballot that the tie was broken, and Burr received the second place, that of vice-president. Being defeated for governor of New York in 1804, through the agency of Gen. Alexander Hamilton, he with slight provocation challenged and killed the latter in a duel. He was suspected of entering into a design treasonable to the United States, and was tried and acquitted in 1807. After that he spent some years in Europe, but returned in 1812, and settled in New York.

P. 94. The Greek words from which the term political economy is derived, if spelled out in their corresponding English letters, would read, *oikos, nomos, and polis.*

P. 100. "John Stuart Mill." (1806-1873.) A great English philosopher and political economist, author of several works. He held that "political questions should be decided by the deliberately formed opinions of a select few, specially educated for the task, whose rectitude of purpose should be secured by rendering them responsible to the many."

P. 105. "Mrs. Fawcett," Millicent. (1847—.) She was the wife of Prof. Henry Fawcett the English economist, who in 1880 was made postmaster-general of England. He lost his sight while a young man, and throughout his life his wife assisted him in all his literary and other labors. She is the author of several books.

P. 108. "Jean Jacques Rousseau." (1712-1778.) A Swiss philosopher and author. Prof. Fisher says of him: "He was a deist in his creed; but in religion, as in all his mental action, there was a vein of sentiment. . . . He was perhaps the first author to evoke in others a genuine relish, which he felt himself, for the wild scenery of nature. In his 'Social Contract' he maintained that government grows out of a contract with individuals with one another, all of whom in a state of nature are free and independent."—Another says, "His propositions—that all men

are born equal; that property is a crime; that the soil belonged to no one, and the fruits of the soil to all men alike; that monarchy means tyranny and religion superstition—became very popular among certain classes of men and powerfully prepared the French Revolution."

P. 121. "Gradgrind." A leading character in Dickens' novel, "Hard Times." He is represented as a "man of realities; a man of facts and calculations; a man who proceeds upon the principle that two and two are four, and nothing over, and who is not to be talked into allowing anything over."

P. 131. "Fichte" (fik'-teh.) Johann Gottlieb. (1762-1814.) A German philosopher. He took a great interest in the cause of German independence, and used all of his influence and talents in rousing the patriotism of his countrymen against the usurping power of the French under Napoleon.

"Hermann," Johann Gottfried. (1772-1848.) A German philologist; he was appointed professor of philosophy in Leipsic University in 1798.

"Lotze," Rudolph Hermann. (1817-1881.) An eminent German philosopher, a professor at Göttingen for nearly forty years, where he led a studious, uneventful life, publishing several philosophical works of which the greatest is "Microcosmus."

P. 136. "Voltaire," François Marie Arouet. (1694-1778.) The most remarkable of all French writers, and the most popular one of his age. "He was the incarnation of its critical and skeptical spirit, the highest example of its wit as of its levity, and of the artificial character of its literary ideals. He was play-writer, poet, historian, critic, and brilliant converser, all in one. In religion, a scoffer not only at superstition, but at all beliefs and rites which imply revelation, he still clung to the belief of a personal God. His creed was deism."—*Professor George P. Fisher.*

VANDYKE'S "HOW TO JUDGE OF A PICTURE."

For all artists referred to in the book, see Short Biographical Index of Artists, p. 161.

P. 21. "The Morgan Collection." One of the great art events of the year 1886 was the sale in New York at Chickering Hall and the American Art Gallery, on different evenings in March, of the great art collection of Mrs. Mary J. Morgan. "The catalogue comprised 2,628 numbers, of which 240 were classed as modern paintings, mostly of the French school, 400 as Oriental art-objects, 155 as art in sterling silver, 561 as European ceramics, bronzes, and sculpture, 361 as fine-art and other books, and 911 as engravings and etchings. The total amount realized at the sale

was \$1,207,300, of which \$885,300 was for paintings."

P. 25. "Luxembourg." In 1615 a palace bearing this name was built in Paris for Marie de Médicis. It was enlarged and beautified later and was made the home of Louis XVIII. During the French Revolution it was used for some time as a prison; the Directory made it the seat of government; and the Empire made it a senate chamber. One part of this palace is used as a museum in which to keep a collection of pictures of living artists. Ten years after the death of an artist any of his pictures which are in the museum are removed to the Louvre.

"Metropolitan Museum." This is located in Central Park, where it was moved in 1880 from West Fourteenth Street. Besides a gallery of paintings by old masters, it contains the Cesnola collection of Cypriote antiquities, and collections of modern pictures and statuary, pottery and porcelain, arms, manuscripts, curiosities, etc. The building is of fire-proof brick and granite, after the modern Gothic style.

P. 26. "The National Academy of Design" is located at the corner of 23d Street and Fourth Avenue, New York City. It is a unique building of dark blue stone and white Westchester marble, in the thirteenth century style of Gothic architecture. The exhibition galleries are reached by oak and marble staircases; and exhibitions of painting are held here for two months every spring. The Academy was

founded in 1828, chiefly through the exertions of Mr. S. F. B. Morse, its first president. It is composed exclusively of artists.

"The Royal Academy of Arts" in London originated in a society of painters who obtained a charter in 1765 under the title of the "Incorporated Society of Artists of Great Britain." It took a new form in 1768 under Sir Joshua Reynolds as first president, and became the Royal Academy of Arts. There is an annual exhibition of paintings, sculptures, and designs open to all artists.

P. 35. "The Louvre." A famous public building of Paris, in the center of the city, near the right bank of the Seine River. The origin of the name is not known, nor has any explanation at all probable ever been given. Its early history, reaching far back into the seventh century, is very obscure. The new building was inaugurated in 1857 and before the destruction of the Tuilleries formed with it one edifice, the complete circuit of which could be made on the second floor. The structure consists of "two lateral piles of buildings, projecting at right angles from two parallel galleries which joined the Louvre to the Tuilleries." On each side of this square the galleries present a frontage of about 300 feet, and in one of the pavilions on the east side is the gallery of art.

P. 39. Chiaroscuro (kī-a-ros-koo'ra).

P. 56. "Tour de force." A French expression meaning a feat of strength or skill.

QUESTIONS AND ANSWERS.

ON THE C. L. S. C. TEXT-BOOKS.

VINCENT AND JOY'S "OUTLINE HISTORY OF ROME."

1. Q. What is Roman history? A. The story of one city continued through twelve centuries.

2. Q. What forms the best approach to the study of Roman history? A. A knowledge of the geography of Italy.

3. Q. Give the extreme length and the average width of Italy? A. Seven hundred miles and one hundred miles.

4. Q. Give the trend of the Apennine Mountains? A. From the north-western part of Italy they first trail east to the Adriatic, then turn sharply to the south, finally breaking up into a net-work of hills.

5. Q. Mention the other mountains of Italy. A. The Alps, Mt. Vultur, the Alban Hills, and Mt. Vesuvius.

6. Q. What is the one large river of Italy? A. The Po.

7. Q. What three distinct regions were included in Northern Italy? A. Liguria, Venetia, and Cisalpine Gaul.

8. Q. What is said of the antiquity of the Etruscans? A. They were already an ancient people when Rome was founded.

9. Q. What tribe formed the most persistent enemies of Roman dominion in Italy? A. The Samnites.

10. Q. What name was given to Lower Italy? A. Magna Grecia.

11. Q. What two cities situated in the heel of Italy are prominent in history? A. Tarentum and Brundisium.

12. Q. What city of Italy contributed a word to the English vocabulary? A. Sybaris.

13. Q. What cities of the New World are on parallels of latitude corresponding to the northern and southern boundaries of Italy? A. Quebec, in Canada, and Richmond, Va.

14. Q. What part of Italy is known as the modern Riviera? A. The strip of sea-coast between the Apennines and the Gulf of Genoa.
15. Q. What have always been the only exceptions to the beauty and comfort of the land? A. Its low lands have been haunted by malarial germs, and the Sirocco brings fever and blight.
16. Q. From what great family did the first migrations into Italy come? A. The Aryans, who lived before the dawn of history on one of the great table-lands of Central Asia.
17. Q. What has enabled scholars to learn anything concerning these migrating people of whom no record was kept? A. The scientific comparison of ancient languages.
18. Q. What different peoples are named as forming the population of early Italy? A. Iapygians, Italians, Etruscans, Celts, and Greeks.
19. Q. Give the location of Rome? A. It was built on a cluster of low hills, on the left bank of the river Tiber, twenty-two miles from its mouth.
20. Q. What are some of the places of special interest connected with the city? A. The Campus Martius, the Tarpeian Rock, the Circus Maximus, and the Forum.
21. Q. What is the population of Rome today, and what was it in the reign of Augustus? A. 300,000 now; 2,000,000 then.
22. Q. To the Roman mind, what character did religion bear? A. That of a contract in which the worship of men was exchanged for the favor of gods.
23. Q. Who was the head of the State religion? A. The Pontifex Maximus, or pope.
24. Q. What maxim forms the world's highest tribute to their fidelity? A. "As faithful as a Roman sentinel."
25. Q. In what is the political faculty of the Romans pre-eminently exhibited? A. In the skill with which they adapted their constitution to the constant changes of their increasing realm.
26. Q. Between what two dates is the first, or kingly, period of Rome contained? A. 753-509 B. C.
27. Q. What is the conclusion regarding the history of this period? A. That certain main outlines are true, but the masses of detail are greatly exaggerated or wholly imaginary.
28. Q. What is the date of the legendary founding of Rome. A. 753 B. C.
29. Q. What is true regarding the real founding of the city? A. When and by whom it was done is unknown.
30. Q. From whom was the Tarpeian Rock named? A. From the mythical Tarpeia who betrayed Rome to the Sabines.
31. Q. How many kings are said to have ruled Rome? A. Seven.
32. Q. Who was the last of the seven kings? A. Tarquinius Superbus.
33. Q. What people supported the cause of the exiled Tarquins? A. The Etruscans under their king, Lars Porsena.
34. Q. What probably constituted the entire possession of Rome at the time of the expulsion of the kings? A. A strip of land a few miles in width extending from the city to the sea, along the west bank of the Tiber.
35. Q. Into what classes was the population divided? A. The patricians and plebeians, the former of whom monopolized the power of governing.
36. Q. Upon what did the internal history of Rome for many years turn? A. Upon the resistance of the patricians to the demands of the plebeians for equal rights.
37. Q. Whence did Rome draw its supply of slaves? A. From prisoners of war and the Eastern slave markets.
38. Q. What was meant by the Comitia Curiata? A. The assembly of the patricians.
39. Q. What more important assembly came to be the leading feature of the Roman constitution? A. The Senate.
40. Q. To what did the plebeians turn their attention? A. To trade and agriculture.
41. Q. In what one particular was the power of the king restricted? A. He had no voice in the choice of his successor.
42. Q. What brought about the change in government marked by the Servian Constitution? A. The rapidly increasing numbers of the plebeians, and the increasing military burdens of the patricians.
43. Q. Upon what basis was the new division of the Roman people made in order to admit the plebeians to the army? A. Upon the amount of land possessed.
44. Q. Of what further advantage did this military organization finally prove to the plebeians? A. It was the source of their first political rights after the time of the kings.
45. Q. What gave rise to the first essential change in the form of government? A. The ambition of the kings.
46. Q. From what indications of this time is it concluded that Rome was once conquered by her enemies? A. The Tarquin kings were Etruscans, who introduced foreign customs.
47. Q. How did their despotism end? A. In revolt and the expulsion of the kings.
48. Q. What effect had the name of king thenceforward? A. There was no surer way to

crush a public man than to report that he wished to become king.

49. Q. How long did the republic then established last? A. For five hundred years.

50. Q. Who put an end to the republic? A. Cæsar.

ELY'S "POLITICAL ECONOMY."

1. Q. Of what science does political economy form a branch? A. Sociology, or social science.

2. Q. What is sociology? A. The science which deals with society.

3. Q. Into how many departments has social science been divided? A. Eight: language, art, science and education, family life, social life (in the narrower sense), religious life, political life, and economic life.

4. Q. What is meant by economic life? A. That part of man's life which is concerned with "getting a living."

5. Q. What forms a fundamental fact of economic life? A. The dependence of man upon his fellows.

6. Q. In what respect does the economic life of a nation differ from that of an individual? A. The basis of national economy is political independence.

7. Q. What is a state? A. The union of a stationary people, occupying a defined territory, under a supreme power and a definite constitution.

8. Q. What are the two great factors in a national economy? A. Territory and man.

9. Q. Cite one example showing the tendency of a national economy to change? A. Landed property was once largely common property; in civilized nations it came into the possession of individuals; now a reverse process is seen in the fact that forests are becoming public property.

10. Q. Viewed from the standpoint of production, into what five stages is the economic progress of humanity divided? A. The hunting and fishing stage; the pastoral; the agricultural; the commercial; and the industrial.

11. Q. Viewed from the standpoint of transfer of goods, how many economic stages are there? A. Three: truck economy; money economy; and credit economy.

12. Q. What people are a type of the hunting and fishing stage? A. The American Indians.

13. Q. Where are vivid pictures of people living in the pastoral stage found? A. In the earliest chapters of the Bible.

14. Q. To what manner of life did the pastoral stage give rise? A. To the nomadic.

15. Q. What was probably the earliest form of settled agricultural life? A. Village communities.

16. Q. What remain to-day as witnesses of the former common ownership of land? A. The Boston "Common" and the "commons" of other New England towns.

17. Q. What radical changes mark the commercial stage? A. Important cities arose along the sea-coast and on rivers; mines were worked; and the use of money became more general.

18. Q. What made possible the far-reaching changes marking the industrial stage? A. The application of steam to industry and the improvement in the means of communication and transport.

19. Q. With what periods was the truck, or barter, economy coincident? A. The hunting and fishing, the pastoral, and part of the agricultural periods.

20. Q. What one fact is sufficient to show the change from money economy to that of credit? A. The fact that banks now form an essential part of the entire national economy.

21. Q. What are some of the main causes for the existence of the present economic problems? A. The industrial revolution; the new importance of capital; the possibility of improvement; and the higher ethical standards.

22. Q. What are some of the remarkable features of the recent development of the industrial revolution? A. Increased domestic and international commerce; corporations and trusts; problem of the working day; resistance to improvements; and sudden riches.

23. Q. What great change in production occurred during the industrial revolution? A. Two of its chief factors, capital and labor, were separated.

24. Q. What has been the result of this division? A. Capital has acquired a new power which has created modern socialism.

25. Q. What is the wide-spread belief of reformers regarding the solution of this problem? A. That labor and capital must be again united, but they differ as to the methods.

26. Q. In what are three characteristic features of modern economic life to be found? A. In the relations which it bears to freedom, to ethics, and to the state.

27. Q. Under what condition has economic freedom ever been absolute? A. Under primitive anarchy.

28. Q. In what way may real freedom be increased by restriction laws? A. Such laws may remove restrictions to liberty arising outside of law.

29. Q. In what five ways does economic freedom manifest itself? A. Freedom of labor, of landed property, of capital with respect to loans, in the establishment of enterprises, and of the market.

30. Q. What restrictions have been placed upon freedom of movement? A. Tramp laws, the anti-Chinese legislation, and a law forbidding contracts with foreign laborers to come to the United States to work.

31. Q. In what respect is freedom of the market restricted in the United States? A. Heavy taxes are laid on foreign trade.

32. Q. What is mentioned as the leading advantage resulting from a general freedom of the market? A. Competition would develop new forces, and reveal new resources of economy, excellence, and variety of products.

33. Q. What disadvantages is it claimed would follow such a freedom? A. The moral standard of economic life would be lowered; and there would result longer hours of labor and cheaper prices.

34. Q. What does ethics demand for the truly civilized life of each individual? A. That so far as possible each should be supplied with economic goods to satisfy his reasonable wants and afford the completest development of his faculties.

35. Q. What is the basis of the economic life of modern nations? A. Individual responsibility.

36. Q. What part, then, does the state enact in this life? A. It enters where the individual's powers are insufficient.

37. Q. Give the derivation and meaning of the term political economy. A. It comes from three Greek words and means the housekeeping of the state.

38. Q. Give a definition of political economy in its most general terms? A. It is the science which treats of man as a member of economic society.

39. Q. What is the true business of the political economist? A. To describe the best means for the promotion of the welfare of the people as a whole.

40. Q. What aims does political economy distinctly include within its province? A. Ethical aims; it does not merely tell us how things are, but also how they ought to be, and shows that in many cases the general honesty which exists now as a mere matter of course was once a future ideal.

41. Q. Into what three parts is political economy commonly divided? A. Into general economics, special economics, and finance.

42. Q. By what three methods is all knowledge acquired? A. The inductive, the deductive, and the statistical.

43. Q. What term has been selected by the author as the most fitting to describe the laws governing political economy? A. Social laws.

44. Q. What assertion is often made against political economy by business men? A. That it is not practical.

45. Q. In return what assertion may be made against the opinions of business men? A. Their range of facts is too narrow, and each man is apt to be absorbed in his own affairs.

46. Q. What is brought forward as an illustration of this point? A. That the attempt to improve politics by putting practical business men in office has often resulted disastrously.

47. Q. What elements have united in forming the science of political economy? A. Business, philosophy, jurisprudence, politics, and philanthropy.

48. Q. Give examples showing how different systems of religion have affected the character of nations? A. The fatalism of the Turks led to indolence; the Jewish religion stimulated its followers to activity and accumulation; Christianity dignifies honest labor.

49. Q. What service does political economy perform for law? A. It explains the reasons for a great part of the laws, their nature, and the principles which should govern them.

50. Q. For what is a body of international law now needed as never before? A. To regulate international economic relations.

VANDYKE'S "HOW TO JUDGE OF A PICTURE."

1. Q. What are the two leading features of painting? A. Form and color.

2. Q. What is the first caution offered by the author? A. Beware of bright pictures.

3. Q. Does he mean to be understood as saying that all bright pictures are bad? A. No. Some of the greatest masterpieces are highly colored.

4. Q. What is said regarding the number of fine high colorists among painters? A. They may be counted on your two hands.

5. Q. What are the two color theories which prevail among artists? A. Harmony is produced by the blending of closely related colors. Harmony is produced by the contrast of opposite colors.

6. Q. What colors are included in the two groups distinguished as warm and cold? A. In the former group, the reds, orange, and yellows; in the latter, the blues, greens, and violets.

7. Q. What is the only true way to acquire an art knowledge of harmony? A. To study the works of great colorists.

8. Q. What is said regarding the color perception of the people of India? A. They can distinguish three hundred shades not perceptible to European eyes.

9. Q. What is harmony? A. The relation of color qualities.

10. Q. What is tone. A. The relation of color quantities.

THE QUESTION TABLE.

11. Q. What does tone require? A. The accord of all colors with some leading color.

12. Q. What is to be taken as the key-note of a picture? A. The bright color near the center on the vantage point of light.

13. Q. What is always to be observed in every object of nature regarding light and shade? A. There is always a point of high light and an opposite point of deep shade.

14. Q. What is meant by chiaroscuro; and of what importance is it in painting? A. The blending of light and shade; it is the art-means by which objects are cast in relief upon a flat surface.

15. Q. What painters never made much practical use of light and shade? A. Egyptians, and as a result their work is characterized by a childish, unnatural look.

16. Q. In what way is perspective in pictures generally recognized? A. In the gradual diminution of objects, which is only one feature of perspective proper.

17. Q. What other feature calls for quite as serious attention as linear perspective? A. Aerial perspective, which notes the effects of atmosphere on objects, light, and colors.

18. Q. What are these effects? A. Outlines are blurred, and colors modulated.

19. Q. Give a definition of the word value as applied to painting? A. It is the quantity of light or shade contained in a tone arising from any cause whatever.

20. Q. What is the unit of value in colors? A. That hue which approaches the nearest to pure white light.

21. Q. In looking down a row of columns in the nave of a Gothic cathedral what difference would be noticed as regards the stone of which they are composed? A. No difference in color, but the nearest one would have more value and appear stronger than the second; the second, than the third, and so on.

22. Q. To what is the word texture applied in art? A. To the rendering of the peculiar qualities of objects.

23. Q. How may the severest test of the texture of a picture be made? A. By shutting out with the hands a part of an object, and noting whether it looks like what it is intended to represent.

24. Q. What help in respect to value does the artist receive from the world of picture viewers? A. They meet him more than half way and piece out his imperfections with their imagination.

25. Q. For what is the word quality used? A. To denote the characteristics of tone, color, light.

THE QUESTION TABLE.

ANSWERS IN NEXT NUMBER.

THE WORLD OF TO-DAY.—THE PARIS EXPOSITION.

1. The centenary of what event is celebrated by the Paris Exposition?

2. In the decree signed by President Grévy, what dates were fixed for the opening and closing of the Exposition?

3. Where does the cost of the enterprise fall?

4. What are the arrangements for prices of admission?

5. What portions of Paris are occupied by the Exposition buildings?

6. Into what nine groups are the displays of the Exposition classed?

7. What is the size of the largest building?

8. What countries are represented in the Palais des Machines, and what proportion of space is allotted to each?

9. What branches of Edison's inventions are exhibited?

10. How many works of French artists are exhibited in the Fine Art Department?

11. What foreign nation sent to the Exposition the greatest number of works of art?

12. What nations are represented in the

unique feature called Typical Human Homes?

13. What is the height of the Eiffel Tower?

14. What is the next highest structure in the world?

15. What other well-known structures are the work of M. Eiffel?

THE ROMANS AS ENGINEERS.

1. How many aqueducts existed in Rome at the time of its greatest prosperity?

2. Which was the longest of the Roman aqueducts and by whom was it built?

3. What historic Roman bridge is the oldest wooden bridge on record?

4. What was the great defect of the Claudian Harbor?

5. How were the foundations laid for the lighthouse at the entrance to the Claudian Harbor?

6. Under what emperor was the harbor system at Ostia brought to perfection?

7. What were the greatest five hydraulic enterprises of the Emperor Trajan?

8. What formed the pavement of the Appian Way?

9. What emperor was accustomed to boast that he found his capital built of brick and left it of marble?

10. What three triumphal arches of Rome are still extant?

11. By how many walls has Rome been defended at different periods and what portions were inclosed by them?

12. To whom is the construction of the Cloaca Maxima attributed?

13. What is the height of the column of Trajan and of how many pieces is it composed?

14. How many spectators could have been accommodated in the coliseum in its complete state?

15. What two thermæ of the many erected by the various emperors were the most extensive and magnificent?

PRONUNCIATION TESTS.—I.

1. In an *instant* he gave a striking *incidence*.

2. The *youths* made *mouths*.

3. She lost her *serge* dress in the salty *surge*.

4. It is a *chance* if he gets the *chants* correct.

5. *Withdraw* *forthwith*, *without* the *withes*.

6. *Sir*, you are *surrounded* by danger.

7. The *false* one attempted to cover up his *faults* by *finessing*.

8. The *prints* were bought by a *puissant* *prince*.

9. The cat was *caught* on the *col*.

10. He has a cargo of *furs* and *firs*.

11. He is endeavoring to *earn* enough to buy an *esthetic* *urn*.

12. That cowardly *cur* tried to *curry* favor with us.

13. He *reflects* upon *reflex* action.

14. He had not *sense* enough to count *sixty* *cents*.

15. *Amidst* the *mists* he was lost.

PHYSICAL GEOGRAPHY.—I. CLIMATAL CHANGES.

1. The diversified character which climate displays may be referred to the combined operation of what causes?

2. Which is the most potent of these causes?

3. What is the snow-line and what determines its height?

4. From what sources does the air receive its temperature?

5. What is the estimated temperature of space beyond our atmosphere?

6. If air were perfectly dry, at what rate would the temperature fall with increase of elevation?

7. Why is an extent of sand accompanied by such extreme fluctuations of climate?

8. What effect is produced on the temperature of a region by extensive forests?

9. A lake that does not freeze over in winter has what influence on the temperature of a district?

10. How does the direction of mountain ranges determine the climatic characteristics of prevailing winds?

11. What accounts for the rainless character of the summers of California, southern Europe, and northern Africa?

12. What region of North America presents more sudden transitions of climate and climates more sharply contrasted with each other, than any other portion of the globe?

13. Why are the afternoons of a St. Petersburg summer so hot?

14. What is the length of the longest day of the year at New Orleans, New York, St. Petersburg, and Hammerfest respectively?

15. To what two scientists is the world chiefly indebted for the rapid progress made in climatology during the present century?

SPECIAL MEMORIAL DAY.—ADAM SMITH.

1. Of what nationality was Adam Smith?

2. What happened him when he was three years old?

3. His introduction as an author was made by an article in the *Edinburgh Review* on what famous book?

4. Under what sobriquet is Smith spoken of in the "*Noctes Ambrosiæ*"?

5. Upon what work does his fame mainly rest?

6. What probably induced this "Kirkcaldy recluse" to accept the office of traveling tutor to the young Duke of Buccleuch?

7. What great event was transpiring in America at the time the "*Wealth of Nations*" was published?

8. If according to the historian Green, "books are measured by their effect on the fortunes of mankind," what rank must be assigned to the "*Wealth of Nations*"?

9. Who said that it was "perhaps the only book which produced an immediate, general, and irrevocable change in some of the most important parts of the legislation of all civilized nations"?

10. What does Smith consider the only source of wealth?

11. What method of compulsory education did he propose?

12. From what three classes or orders of civilized society did he contend came all the revenues which supply every other class?

13. From what great historian did the "*Wealth of Nations*" receive its first emphatic welcome?

14. What prime minister of England took the

principles it taught as the ground-work of his policy?

15. What great event not long after its publication set England against the doctrines of political innovation taught in the book?

16. What change of opinion did Pitt undergo regarding Smith's free trade notions?

17. What habit of Smith's, indulged even in society, caused much amusement?

18. What acts showed his beneficent nature?

19. What did he call himself in reference to his weakness, the collection of a fine library?

20. Throughout his life who was his closest friend?

THE C. L. S. C. CLASSES.

1882—1893.

CLASS OF 1890.—"THE PIERIANS." "Redeeming the Time."

OFFICERS.

President—The Rev. D. A. McClenahan, Allegheny, Pa.

Vice-Presidents—John Lee Draper, Providence, R. I.; the Rev. Leroy Stevens, Mount Pleasant, Pa.; Charles E. Weller, St. Louis, Mo.; Mrs. Dr. Edwards, Randolph, N. Y.; Miss Anna L. Sanderson, Toronto, Canada; Geo. H. Iott, Chicago, Ill.; A. T. Freye, Crestline, Ohio; Miss Helen Chenault, Ft. Scott, Kan.; S. M. Delano, New Orleans, La.; Miss Sarah Young, Danville, Ky.; Mr. Dean. *Eastern Secretary*—Miss G. L. Chamberlain, Plainfield, New Jersey.

Western Secretary—The Rev. H. B. Waterman, Griggsville, Ill.

Treasurer—Mrs. E. P. Wood, 252 General Taylor Street, New Orleans, La.

Class Trustee—Dr. J. T. Edwards, Randolph, N. Y. Items for this column should be sent to Miss G. L. Chamberlain, Plainfield, N. J.

CLASS FLOWER—THE TUBEROSE.

SINCE the Class of '90 had the honor of suggesting the Union Class Building at Chautauqua, it is appropriate that the reports of progress in that enterprise appear under its head. The report for the present month is of a unique service held August 19 in the interest of the new building. Until the present summer the Building Committee has not had enough money at its disposal to warrant it in beginning work. In August it was found that six of the classes had raised \$300 each, and one reported \$1,500. With this sum it was thought safe to begin. A Ground-Breaking was suggested. To carry out this happy idea the members of the various C. L. S. C. Classes met at five o'clock in the Hall of Philosophy and then adjourned to the lot chosen for the new building. This is directly back of the Hall. A rope was stretched around the lot and spaces were indicated where each class was to assemble. The exercises were conducted by Bishop Vincent. After speeches by various class representatives in which the plan and progress of the enterprise were explained fully, a pick-ax was handed to President Miller, who said, as he grasped familiarly its oaken handle, that this was the first time he ever had the privilege of having his vocation

exhibited at Chautauqua. After loosening a few square feet of the soil, Mr. Miller passed the ax to Bishop Vincent, who seized the implement and proceeded to strike four vigorous blows for the—Chautauqua—Literary—and Scientific—Circle. Dr. Hurlbut followed with three for the—Union—Class—Building, and then the president or representatives of the various C. L. S. C. Classes were called upon in turn to spade away the loosened earth. Professor McClenahan represented '90; Dr. Frank Russell, '87; Mr. William McKay, '88; Mrs. S. Knight, '86; the Rev. J. H. McKee, '89; Dr. Ostrander, '91; the Rev. Mr. Dodds, '93; Professor Stuart, '92.

THE question of a Class Building at the New England Assembly was discussed with much enthusiasm at the Round Tables, and on Recognition Day Dr. Hurlbut brought the matter before the audience in the Auditorium. In less than ten minutes \$500 were raised. One gentleman offered to give \$5 for every \$95 subscribed, the twentieth \$5 for every nineteen \$5 subscriptions, and \$1 for every nineteen \$1 subscriptions. Three gentlemen gave \$100 each; another offered to furnish all chairs and tables necessary for the new building; and the Class of '89 voted to donate \$25 to the fund instead of spending it on decorations.

CLASS OF 1891.—"THE OLYMPIANS."

"So run that ye may obtain."

OFFICERS.

President—The Rev. J. M. Durrell, D. D., Lawrence, Mass.

Vice-Presidents—Mrs. Mary A. Livermore, Melrose, Mass.; Mrs. Mary T. Lathrap, Jackson, Mich.; the Rev. J. A. Smith, Johnsonburgh, N. Y.; W. H. Westcott, Holley, N. Y.; the Rev. J. S. Ostrander, D. D., 314 President Street, Brooklyn, N. Y.; Mrs. Hawley, Buffalo, N. Y.

Secretary—Mrs. Hattie E. Buell, 2604 Main Street, Buffalo, N. Y.

Assistant Secretary—Mrs. Harriet A. H. Wilkie, Onondaga Valley, N. Y.

Treasurer—Prof. Fred Starr, New Haven, Conn.

Class Trustee—The Rev. J. S. Ostrander.

CLASS FLOWERS—THE LAUREL AND WHITE ROSE.

THE PRESIDENT'S CHAT.—How about the memoranda this year? Here they are, one or

four pages, the other of twelve; which shall it be? "A small horse is soon curried": try the smaller paper. Yet the larger document has an inviting look; it promises the White Seal, and suggests that the mind must be kept active during the reading of the entire year. It is said that Thiers, the French statesman, could never keep quiet five minutes without going to sleep; so the mind when unemployed becomes dormant; stupidity is the penalty for mental laziness; while we doze, others of more courage pass us in life, and we are left behind. Do not fall asleep. Try the twelve-page memoranda.

Filling in the lines will be an excellent way of finding out how much or how little is remembered of the work done; it will also test our grasp, and reveal to us whether we have been reading words or thoughts. If the blanks are not filled as a book has been read, an opportunity will be offered for a rapid re-reading that cannot fail to be advantageous. Look not on the matter as a task; make it a pleasure; put aside your spare time for two weeks after the reading of each book for this purpose, and have a feast of good things with the authors whose acquaintances you have made. Books are like some kinds of tree mosses that in a dry time seem to be dead, but on the approach of the first shower regain their usual size and open up to the world about them as lively as ever. If our Chautauqua volumes seem dry, it is because we ourselves are dry; household cares and business perplexities bring the drouth sometimes. Let us end the drouth by striving for another White Seal, and in so doing find that our books open out as fresh and inviting as ever.

The Olympians unfurled a new banner at Chautauqua this year. It is of a rich white silk, painted with a wreath of the class flowers, the laurel and white rose, and is emblazoned with appropriate symbolism. Principal Hurlbut kindly made the presentation speech at the class reception held on the eve of Recognition Day.

CLASS OF 1892.—"THE COLUMBIA."

"Seek and ye shall obtain."

OFFICERS.

President—Col. Logan H. Roots, Little Rock, Ark.
First Vice-President—Prof. Lewis Stuart, Mich.
Second Vice-President—P. W. Gunsaulus, Ill.
District Vice-Presidents—Mrs. Frank Beard, N. Y.; Dr. P. S. Henson, Ill.; Charles P. Williamson, Ky.; the Rev. J. C. Hurlbut, N. J.; Mr. J. T. Barnes, N. J.; Mr. E. P. Brook, N. Y.; Issa Tanimura, Japan.
Secretary—Miss Jane P. Allen, University of North Dakota, Dak.
Treasurer and Member of Building Committee—Lewis E. Snow, Mo.

Class Trustee—Mr. J. P. Barnes, Rahway, N. J.

CLASS FLOWER—CARNATION.

By the report of the Ground-Breaking for the

Union Class Building, printed in the '90 Class column, it will be seen that one class reports \$1,500 raised. It will be welcome news to '92 that this class is The Columbia. It should be added that the greater part of this sum is the gift of the President, Col. Logan H. Roots.

BISHOP VINCENT is said to be already preparing plans for the Chautauqua season of 1892. These plans comprise historical studies, historical tableaux, courses of lectures, orations, prize poems, prize papers, commemorating the discovery of America by Columbus in 1492, and a full discussion of all the other early American exploring expeditions. It is not too early for The Columbia to begin similar plans for its graduating year. The occasion will give rare opportunity for blending historical lore with class enthusiasm.

CLASS OF 1893.—"THE ATHENIANS."

"Study to be what you wish to seem."

OFFICERS.

President—The Rev. R. C. Dodds, 33 Oak St., Buffalo, N. Y.
Vice-Presidents—Mrs. S. M. I. Henry, Evanston, Ill.; Miss Kate McGillivray, Port Colborne, Province Ontario, Canada; The Rev. D. T. C. Timmons, Tyler, Texas.
Secretary—Mrs. L. L. Rankin, Room 3, Wesley Block, Columbus, Ohio.
Treasurer—Miss Julia J. Ketcham, Plainfield, N. J.
Building Committee—Mr. Dodds; Mr. Rankin.
Assembly Treasurer and Trustee for the Union Class Building—Mr. George E. Vincent.
 EMBLEM—THE ACORN.

The Athenians have chosen a forcible motto; to understand how forcible consider it beside some familiar quotations.

"A man may smile and smile and be a villain."

"All that glitters is not gold,
 Gilded tombs do worms enfold."

"Not always actions show the man: we find
 Who does a kindness is not therefore kind;
 Who combats bravely is not therefore brave—
 He dreads a death bed like the meanest slave;
 Who reasons wisely is not therefore wise—
 His pride in reasoning, not in acting, lies."

THE reports from the Assemblies printed in the present impression of THE CHAUTAUQUAN show that '93's are springing into life on all sides. Let 30,000 be the goal, and every Athenian strive to reach it.

THE body chosen to preside over the Class of '93 is especially strong. The Rev. Mr. Dodds is an enthusiastic and active leader, and his associates are all full of interest and willingness. The Class can congratulate itself on having Mr. George E. Vincent, Chancellor Vincent's son, as one of its ruling force. Mr. Vincent will be sure to work both energetically and sympathetically with the Athenians.

At the New England Assembly the Class of '93 elected a full board of officers for local work. This is an excellent plan and will be followed wisely at each Assembly by every class. Only by formal organization can efficient work be accomplished. The '93's at Framingham sent two or three excellent suggestions to the class at Chautauqua, where the final action on all matters are of general interest.

GRADUATE CLASSES.

CLASS OF 1889.—"THE ARGONAUTS."

"Knowledge unused for the good of others is more vain than unused gold."

OFFICERS.

President—The Rev. J. H. McKee, Olean, N. Y.

Vice-Presidents—Miss M. A. Gage, Concord, N. H.; Mrs. M. D. Taylor, Bethel, Conn.; Mrs. S. S. Pierson, Newark, N. Y.; Miss Fannie Steele, Newark, N. J.; Miss Georgie Griffin, Philadelphia, Pa.; Miss Kate M. Pish, Frederick, Md.; Miss M. S. Allison, Wheeling, W. Va.; Miss Mary Wright, Louisville, Ky.; Rev. M. Swadner, Marion, Ind.; Mrs. J. R. Hawes, Mendota, Ill.; Mrs. C. E. Dickinson, Marietta, O.; Mrs. Emma Estee, Buchanan, Mich.; Mrs. C. W. Ferguson, Brandon, Wis.; Miss Mary Clenahan, Cedar Rapids, Ia.; Miss H. N. Miller, Topeka, Kan.; the Rev. M. B. Chapman, Hannibal, Mo.; the Rev. P. E. Lawler, Clarksville, Tex.; L. C. Robbins, Washington, D. C.; Miss S. C. Brackbill, Ridgeway, Canada.

Recording Secretary—Mrs. E. N. Lockwood, Ripon, Wis.

Corresponding Secretary—Rev. S. Mills Day, Honeoye, New York.

Treasurer—Rev. R. H. Bosworth, Brooklyn, N. Y.

Assistant Treasurer—Geo. A. Braashear, Pittsburg, Pa.

THE summer of 1889 has witnessed the gathering of more than forty Chautauqua Assemblies all over the land, from Monterey, on the Pacific Coast, celebrating her decennial, across the continent to Chautauqua "the gracious all mother," and around the world to Japan. In South Africa the patient labors of five years bore the first fruit and the first C. L. S. C. Recognition Day held in the Eastern Hemisphere was celebrated on the first of July. Twelve graduates of the Class of '89 were recognized at that time and received the diplomas sent out from America. The Class of '89, in Japan, numbered more than a hundred graduates, and in addition to the diplomas given to these students, special certificates were awarded to several hundred others who have pursued an elective course in political economy. Mrs. Drennan, the secretary of the Japanese branch writes, "There will be no difficulty in distributing the diplomas to those entitled to them, because examinations have been made every year, and the names of those passing, published with their grade." At Chautauqua there were present to receive diplomas 470 persons. Diplomas were presented at other Assemblies as follows: Acton Park, Indiana, 9; Bay View, Petoskey, Michigan, 29; Bluff Park, Iowa, 3; Colfax, Iowa, 12;

Connecticut Valley, Northampton, Mass., 33; Southern California, Los Angeles, Cal., 5; Hedding Assembly, East Epping, N. H., 16; Island Park, Rome City, Ind., 11; Lexington, Ky., 10; Lakeside, Ohio, 28; Mahtomedi, Minn., 5; Maplewood Park, Waseca, Minn., 34; Mt. Lake Park, Md., 5; Monteagle, Tenn., 8; Mt. Grove, Berwick, Pa., 23; Monona Lake, Madison, Wis., 49; Warrensburg, Mo., 8; Crete, Neb., 17; South Framingham, Mass., 147; Fryeburg, Me., 26; Ocean Grove, N. J., 60; Ottawa, Kan., 47; Monterey, Cal., 21; Puget Sound, Wash. Ter., 4; Round Lake, N. Y., 26; Key East, N. J., 1; Silver Lake, Perry, N. Y., 25; Winnebawkee Lake, Weirs, N. H., 26; Winfield, Kans., 3; Niagara, Canada, 18; Topeka, Kan., 8; Piedmont, Ga., 1; Williams Grove, Pa., 12; Ocean City, N. J., 14; Ocean Park, Me., 26; Piasa Bluffs, Ill., 3; Lake Bluff, Ill., 31; Council Bluffs, Iowa, 10; River View, New Richmond, Ohio, 5; Rocky Mountain Assembly, Glen Park, Colo., 2; Long Beach, Cal., 6. The full list of graduates in the Class of '89 will appear in the April, 1890, issue of THE CHAUTAUQUAN.

THE landing of the Argonauts in the Amphitheater at Chautauqua was greeted by the new Chautauqua yell—C-h-a-u-t-a-u-q-u-a. C. L. S. C. F-s-s-s—BOOM—AH!!

Dr. H. R. Palmer has the honor of inventing this happy combination.

THERE was, no doubt, many a sailor on the good ship *Argo*, who back in Thessaly spent the rest of his life telling of the time when "I sailed with Jason to Colchis after the golden fleece." How is it to be with the latter-day Argonauts? Is one voyage sufficient to satisfy them? Are they to spend the rest of their lives contemplating what they have done? There is a strong temptation, no doubt, to stay ashore now they are there. Many good people do so. Thousands of college graduates never have anything to tell of on the line of study but "when I was in college." Thousands of C. L. S. C. readers are satisfied with the one achievement of earning a diploma. But is this the test of an "able-bodied seaman"? Not at all. The *Argo* into port, he should choose at once a vessel sailing for some new and distant land, and with no delay board her. Not a voyage, but voyages, makes the sailor; not a course, but courses, of study makes the scholar.

THE Rev. Alexander McKenzie, who delivered the oration to the Class of '89 at the New England Assembly, in course of his remarks said: "You have completed a course of study. Your diploma does not mean anything if it is only a certificate of four years' work. It ought to mean

you are going to do forty years' work. Ten minutes saved out of a busy day's work in a few years will make us educated. If Erasmus had put clothes ahead of books, he would not have been Erasmus."

"WHICH course shall we take?" asks an Argonaut. That which suits best your special taste or needs. If you have developed no special bent, as yet, take the Graduate Course which is alluded to in the article to *Local Circles* in the present issue of the magazine. It is a wise and complete arrangement, and is under the direction of two of Chautauqua's ablest friends.

CLASS of 1888.—"THE PLYMOUTH ROCK."

"Let us be seen by our deeds."

OFFICERS.

President—The Rev. A. E. Dunning, Boston, Mass.
Vice-Presidents—Prof. W. N. Ellis, Brooklyn, N. Y.; Mrs. M. S. Case, Highland Park, Conn.; Mrs. D. A. Cunningham, Wheeling, West Va.; Mrs. Lillie H. Norton, Charlottesville, Va.; Miss C. E. Coffin, Brooklyn, N. Y.; Miss Mary E. Scates, Evanston, Ill.; Mrs. D. A. Dodge, Adrian, Mich.; Mrs. Jas. M. Hunter, Barre, Canada; Mrs. E. P. Hull, Washington, Ga.; Mr. W. E. Drake, Jersey City, N. J.; Mrs. Lucy B. Reeves, Seattle, W. T.; the Rev. L. A. Stevens, Perry, N. Y.

Secretary—W. McKay, East Norwich, Queens Co., N. Y.
Treasurer—Russell L. Hall, New Canaan, Conn.
Assistant Treasurer and Secretary—S. A. Espey, Allegheny City, Pa.

Class Trustee—W. McKay.
Committee on Union Class Building—R. L. Hall, W. S. Wight, W. McKay.

CLASS FLOWER—GERANIUM.

CLASS of 1887.—"THE PANSIES."

"Neglect not the gift that is in thee."

OFFICERS.

President—The Rev. Frank Russell, 42 Bible House, New York City.

Vice-Presidents—The Rev. Mr. Taft, Brooklyn, N. Y.; the Rev. G. R. Alden, Florida; the Rev. C. M. Westlake, Manistee, Mich.

Secretaries—Prof. H. E. Barrett, Syracuse, N. Y.; Mr. Barnett, Chicago.

Treasurer—Mrs. Julia Berry, Titusville, Pa.

CLASS FLOWER—THE PANSY.

CLASS of 1886.—"THE PROGRESSIVES."

"We study for light to bless with light."

OFFICERS.

President—Mrs. S. Knight, St. Louis, Mo.

Vice-Presidents—Mr. J. H. Kellogg, Rochester, N. Y.; Mr. T. Babbitt, Vt.; the Rev. B. P. Snow, Me.; the Rev. J. T. Whitley, Va.; Mrs. D. Brown, Ky.; Miss Florence Finch, Tex.; Mr. L. F. Houghton, Ill.; Mrs. J. D. Merritt, Silver Creek, N. Y.; Mr. C. C. Benacoter, Pa.; Mrs. E. Persons, Col.; Miss H. P. Marsh, Conn.; Mrs. S. E. Middleton, Cal.; Mrs. T. F. Randolph, Toledo, Ohio; J. K. Darling, Chelsea, Vt.

Secretary—J. F. Scott, New York, N. Y.

Treasurer—W. L. Dunn, Pittsburg, Pa.

Treasurer of Class Building and Representative on Committee—Mrs. S. Knight, 414 Olive St., St. Louis, Mo.

CLASS FLOWER—THE ASTER.

CLASS of 1885.—"THE INVINCIBLES."

"Press on, reaching after those things which are before."

OFFICERS.

President—Mrs. A. H. Chance, Vineland, N. J.

First Vice President—Mrs. S. C. Abbott, Chicago, Ill.

Second Vice President—Miss A. A. Hatch, Griggsville, Ill.

Third Vice President—Mr. S. C. Borland, Chautauqua, New York.

Secretary—Mrs. P. J. Adams, Moravia, N. Y.

Treasurer—Mrs. S. C. Borland, Chautauqua, N. Y.

CLASS FLOWER—THE HELIOTROPE.

CLASS of '84.—"THE IRREPRESSIBLES."

"Press forward; he conquers who will."

OFFICERS.

President—Mr. John Fairbanks.

First Vice President—Mrs. S. J. M. Eaton.

Second Vice President—Prof. E. A. Spring.

Third Vice President—Mr. Geo. G. Miner.

Secretary—Miss Clara L. Smith.

Treasurer and Class Trustee—Prof. W. D. Bridge.

Executive Committee—Miss Nellie Stone; Mrs. Lucy J. Colby; Miss Rose L. Annowski; Mr. H. A. Strong.

CLASS FLOWER—THE GOLDEN-ROD.

CLASS of 1883.—THE VINCENT.

"Step by step we gain the heights."

OFFICERS.

President—Miss Anna H. Gardner, 220 Northampton St., Boston, Mass.

Vice-Presidents—The Rev. Joseph Philip, Watford, Canada; Mr. A. D. L. Parrett, South Salem, O.

Secretary and Treasurer—Miss Ann C. Hitchcock, Burton, O.

CLASS FLOWER—THE SWEET-PEA.

CLASS of 1882.—"THE PIONEERS."

"From height to height."

OFFICERS.

President—Mrs. B. T. Vincent.

Vice-Presidents—Dr. J. L. Hurlbut; Mr. A. M. Martin; Lewis Peake; Mr. S. C. Bond; the Rev. John O. Foster;

Miss M. F. Wells; Mrs. J. A. Bemus.

Secretary—Mrs. E. F. Curtiss.

Treasurer—Mrs. A. D. Wilder.

CLASS SYMBOL—A HATCHET.

LEAGUE of THE ROUND-TABLE.

OFFICERS.

President—Mrs. W. H. Westcott, Holley, N. Y.

Vice Presidents—Mrs. C. G. Stevens, Niagara Falls, N. Y.; Mrs. S. Knight, St. Louis, Mo.

Secretary—Miss E. E. Tuttle, Busti, N. Y.

Executive Committee—Mrs. J. C. Martin, New York City, N. Y.; Miss Adell Clapp, Albion, N. Y.; Mrs. C. G. Stevens, Niagara Falls, N. Y.; Mrs. D. W. Hatch, Jamestown, N. Y.; Mrs. S. Knight, St. Louis, Mo.

ORDER of THE WHITE SEAL.

OFFICERS.

President—Dr. Herron, Mcadville, Pa.

Vice-Presidents—Mrs. D. W. Hatch, Jamestown, N. Y.; the Rev. C. G. Stevens, Niagara, N. Y.

Secretary—Mrs. S. Knight, St. Louis, Mo.

Treasurer—Miss E. E. Tuttle, Busti, N. Y.

LOCAL CIRCLES.

C. L. S. C. MOTTOES.

"We Study the Word and the Works of God."

"Let us Keep our Heavenly Father in the Midst."

"Never be Discouraged."

C. L. S. C. MEMORIAL DAYS.

OPENING DAY—October 1.

ADAM SMITH DAY—October 24.

BRYANT DAY—November 3.

ROMULUS DAY—November 18.

SPECIAL SUNDAY—November, second Sunday.

MILTON DAY—December 9.

COLLEGE DAY—January, last Thursday.

SPECIAL SUNDAY—February, second Sunday.

LONGFELLOW DAY—February 27.

SHAKESPEARE DAY—April 23.

ADDISON DAY—May 1.

SPECIAL SUNDAY—May, second Sunday.

SPECIAL SUNDAY—July, second Sunday.

INAUGURATION DAY—August, first Saturday after first Tuesday; anniversary of C. L. S. C. at Chautauqua.

ST. PAUL'S DAY—August, second Saturday after first Tuesday; anniversary of the dedication of St. Paul's Grove at Chautauqua.

RECOGNITION DAY—August, third Wednesday after the first Tuesday.

TWO thousand and more Local Circles of the Chautauqua Literary and Scientific Circle will be in course of organization—or re-organization—when this issue of THE CHAUTAUQUAN reaches its readers. The purpose and plan of each are matters for serious consideration, for without an honest determined purpose to do thorough intellectual work, the best plans will "ganga-gley"; without a suitable plan, the noblest purpose will be fruitless. The first is matter for the individual members. They alone can resolve. The foundation for the second may come from anybody within or without, but it must be molded to suit the peculiar need of the body which is to use it. No two circles are exactly alike, and when one adopts another's suggestions it must make them *fit*. With this understanding the Scribe ventures on two or three hints for the coming year.

The first of these is an ambitious one, but there are many circles which are able to accomplish ambitious things. It is that in those circles—and they are many—where the plan is adopted of taking up one subject only of the course for circle work, that a series of special lectures on the subject follow the discussion of the textbook. This suggestion has been made before in THE CHAUTAUQUAN, but no lecture bureau has existed to which circles could be referred for obtaining material for such special work. This difficulty has been conquered. Chautauqua has added to her many-halled structure an English plan for carrying University-instruction to the people, known as the University-Extension Scheme. The methods of work in this scheme are thus described in the prospectus which the committee recently has issued:

1. University-Extension work will be under the management and supervision of a Central Committee, who are advised and assisted by a General Committee selected from representa-

tive College and University Professors, who will nominate candidates for itinerant lectureships from among the younger specialists who are personally known to be fitted for the task of popular teaching. A faculty of University-Extension Lecturers will be gradually formed, from which local demands for lecture courses will be supplied when possible.

2. The courses consist of twelve weekly lectures, each occupying about an hour. For about three-quarters of an hour, preceding or following each lecture, a class is held for those students who wish to study the subject more thoroughly. The object of the class is to give the students an opportunity of coming into personal contact with the lecturer, in order that they may, by conversation and discussion with him, the better familiarize their minds with the principles of the subject, and get their special difficulties explained. The teaching in the class is conversational.

3. In order to enable the students to follow the lecture readily, and to carry away the substance of it, a printed Syllabus, usually in pamphlet form and interleaved, is prepared beforehand by the lecturer for the use of his students.

4. Printed questions are provided for each lecture, which may be answered by the students in writing at home, and submitted to the lecturer for correction and comment.

5. At the end of the course an examination is held, under the authority of the Central Committee, and only those students are admitted to the examination who have attended the lectures and classes to the satisfaction of the lecturer, and have done such an amount of weekly exercises as the lecturer may have required. The examination is not compulsory, but it is desirable that as many students as possible should present themselves.

The advantage to a circle of such a lecture course need not be emphasized. But it should

not be undertaken until a careful study of the text-book has been made. The way to go to work to arrange for a course, the cost, and who can be obtained, may be learned by addressing *Fredrick Starr, Secretary, New Haven, Conn.* Something can be learned, too, by pondering the experience of a circle of C. L. S. C. graduates in PORTAGE, WISCONSIN. These graduates organized last fall a separate circle, and took up the study of Germany—its history, literature, art, biography, and geography. Topics for study were carefully arranged in advance, and printed upon a leaflet with desirable books of reference. A course of stereopticon lectures was suggested as an aid to study, and almost unawares the society found itself carrying out a broad educational scheme which embraced a large portion of the intelligent part of the community. The Opera House was secured for a course of lectures, a stereopticon and slides were rented, and all available local talent, clergymen, lawyers, and teachers of the city pressed into the service as lecturers. Season tickets were sold at a dollar each, entitling the holder to twenty lectures illustrated by from twenty to fifty views, at an expense of five cents for each lecture. Single tickets were sold at fifty cents each, and though the expense of the course amounted to nearly four hundred dollars, the circle closed the season free of debt. Increased interest in the lectures was manifested as the season advanced, and many weary and burdened men and women came to look forward to the lecture evening as the one bright spot in their lives. The influence upon the community was very marked, and the members of the circle were so encouraged by their success that a similar plan for the study of the British Isles has been suggested for this year. The undergraduate circle worked heartily with their comrades in pushing the enterprise, at the same time keeping up their regular meetings, while the graduates met once a week and studied up the topic for the coming lecture. It was a fine example of what co-operation will do.

Current news and fresh matter bearing on the readings are always a help to a circle, and a systematic plan for gathering and presenting such items will be found advantageous. The Scribe knows of no better plan than to keep on one's reading table a quantity of thin paste-board cards about 5x2 inches in size and ruled with a red line $1\frac{1}{2}$ inches from the end. In reading, use these cards for taking notes. Thus the circle is reading Political Economy and the principle of co-operation is before it. A member finds a report from the Pillsbury Mills in Minneapolis showing how co-operation worked there in the H-Oct.

last year. He cuts it out for his scrap-book, and on a note-card writes :

| | |
|----------------------|---------------------------|
| <i>Co-operation.</i> | Report of Pillsbury Mills |
| See Scrap-book. | in Minneapolis for year |
| Page —. | 1889. |

In a month he will accumulate several of these notes on co-operation. He can then put his material together in a paper or a verbal report and carry it to the circle. The cards should be saved and arranged in alphabetical order. References to points in books can be easily found in this manner. Where the book is not one's own the particular point can be copied into a blank book (every reader should own such a book for saving matter, just as he should own a scrap-book). Matter will accumulate pertaining to every subject which comes before the circle, and the half-hour devoted to a report of what the members have picked up during the week, of current news bearing on the subjects in their course, will become one of the brightest and most profitable of the meetings.

The attention which will be given to art in the coming year opens a fine opportunity for the illustrated scrap-book maker. The better class of illustrated newspapers print wood-cuts of the best pictures at every French *salon* and English and American exhibition, and by saving these with the explanation attached, a good idea of the best pictures of the day and familiarity with artists can be obtained. Illustrated catalogues of the expositions are also obtainable at a small cost. Illustrated magazine articles on the works of the old masters are not hard to secure. Indeed by thrift and ingenuity a very complete and respectable art collection can be made.

The department of Local Work will be continued during the year under *Local Circles*. Last year most of the reports were on Local Charities. The range, however, is not limited. Local Dialect, History, Charities, and Laws are all welcome. Many readers in following Prof. Shaler's studies of the physiography of the fields about him, will gather interesting notes on plants, animals, and the soil. These very properly belong to Local Studies and will be given a place there if sent to THE CHAUTAUQUAN.

A charming example of what one may do in local work, in even so narrow a limit as one's door-yard, was shown the Scribe last summer at Chautauqua in the class cottage of the Irrepressibles. From an '84 in Hiawatha, Kansas, had come a herbarium of the flowers—wild and cultivated—in her garden. The portfolio contained some seventy-five specimens beautifully

mounted on separate sheets. It was a delightful souvenir for the class and a stimulating example to those who realizing that their range in the world is narrow, would get as much from it as if it were wide.

The number of local circles made up of graduates of the Chautauqua Literary and Scientific Circle has led to the arrangement of a special course for them. The "General Announcement" sent from the Plainfield Office says: "The plan of study of the Chautauqua Literary and Scientific Circle embodies two elements: first, a preliminary four years' course in science and general literature, designed to give, in some degree, the general college outlook; and second, advanced work in special lines, to be continued as long as the student desires to work under the direction of his *alma mater*. The first part of this plan has been developed with marked success, and with the close of the year 1889 the graduates of the Chautauqua Circle will number more than twenty thousand. Many of these students have already taken up special lines of work, but it is believed that this graduates' organization is now strong enough to support a definite course of advanced study, and that the necessary development of the higher work of the C. L. S. C. demands special provision for this need. The Chautauqua Circle therefore offers a special advanced three years' course in English History and Literature. This course is intended for all graduates, but those who prefer other lines of work will have the privilege of choosing, as heretofore, from the Seal courses given in the C. L. S. C. hand-book. This three years' course will be followed by similar courses in other subjects. The plan is to mark out a three years' course in the history and literature of England, to specify the books required, to expand the course by recommending other books for those who have much time, to furnish helps and suggestions by instructors who are specialists in their departments, to make full tests and reviews, and to adapt the course and suggestions to circle work. The readings of each year will be so arranged that graduates of later classes will be able to fall in with the work of the year then current. The course in general will be adapted (1) to those who wish simply to read; (2) to those who have time and inclination for thorough study." The directors of the course are, in History, Prof. H.

B. Adams, Ph.D., of Johns Hopkins University, and in Literature, Prof. W. D. McClintock, A.M., of Chautauqua College.

The readings for the coming year include Green's "Short History of the English People"; Stubbs' "Early Plantagenets"; Poole's "Wycliffe and Movements for Reform"; Ward's "English Poets"; "Typical Selections from English Prose Writers"; Introduction to Minto's "Manual of English Prose Literature"; Scott's "Ivanhoe"; THE CHAUTAUQUAN, which will contain special required articles.

This course will be welcomed, we are confident, by many circles. The Graduate Circles will be given a department in *Local Circles*, their reports appearing together, as do those of the Chautauqua Literary and Scientific Circle.

It has been customary in local circles to celebrate certain special occasions called Memorial Days. At the head of this department a list of the fixed Memorial Days stands from month to month. This list also contains two special Memorial Days chosen from the names of those persons who are particularly celebrated in the subject which is most prominent in the readings. Thus for the present month Adam Smith is suggested, because of the place Political Economy takes in the month's reading. Next month we shall have a Romulus Day; in December a Brutus Day; and so through the year. This gives circles a subject for an entertainment or special program without taking them too far from their readings. To aid in preparing for these Days, the *Suggestive Programs* will always contain something suitable for the occasion, and in *The Question Table* will be found a set of questions calling out the leading points in the man's life. It must not be concluded that because so many Days are proposed, circles are supposed to celebrate all or even a majority of them; one or two celebrations in a year, carefully planned and executed, are worth more than a dozen inferior ones. The LOGANSPORT, INDIANA, Circle did a much more valuable piece of work last year in their "Penelope's Symposium" than if they had held monthly unimportant celebrations; that is, one "big thing" is worthy several small ones. It will be found a good rule for circles to observe only such special occasions as their time and taste enable them to observe on a generous scale and with hearty co-operation.

THE SUMMER ASSEMBLIES.

SEASON OF 1889.

Chautauqua. A retrospect of the sixteenth New York. Chautauqua session is a pleasant and inspiring task. The opening—July 2—was encouraging. Those present remarked after a first walk, "How things are improved!"—and they were. The grounds were clean, flowers, walks, and shrubbery were in good condition, new and elegant cottages and improved old ones were conspicuous, a large and elegant new office building devoted to THE CHAUTAUQUAN and the *Assembly Daily Herald* was a marked improvement, the Kellogg Memorial Building, built by Mr. J. H. Kellogg, of Troy, N. Y., in honor of his mother, made a fine addition to the more pretentious architecture of the grounds and gave excellent accommodations to the various departments of children's work, to the art and industrial classes, and to the Woman's Christian Temperance Union. Chautauqua beamed with beauty and fresh attractions. Those for whom all this had been prepared, responded generously. July has been considered the quiet month of the season, but this year it was difficult to distinguish it from August. The cottages were all open and the boarding places and hotels full. In whatever way measured, the attendance was unprecedented.

The surprising increase in attendance was well illustrated in the College where over five hundred students were enrolled, nearly forty per cent more than in any previous year. This enrollment had a wide territorial variety, thirty-five states being represented, twelve students coming from Canada, two from China, and one from Bulgaria. The prosperity of the college had other signs than numbers; one of them was the growth of the reference library. Over one thousand volumes are now on the shelves, and the beginning of a library fund has been made by a generous friend from Illinois, who has placed a considerable sum at the disposal of the college to be used for historical works. The Museum has grown so that it was possible to use it largely this summer in illustrating historical lectures. The rare lot of antiquities received from the Egypt Exploration Fund through Miss Amelia B. Edwards was particularly valuable. The splendid teaching force was at its best and was made still stronger than had been promised, by drating into service during their visits many eminent lecturers, notably the distinguished foreign guest of the Assembly, Prof. J. P. Ma-

haffy of Dublin University—who during his visit devoted an hour each day to a Greek class, the *Alcestis* of Euripides being read. The enthusiasm and self-congratulation with which the College body closed the season was entirely justified. The session was in every respect remarkable.

The Rev. A. E. Winship, editor of the New England *Journal of Education*, remarked while at Chautauqua, "The summer school life promises to be as much a benefit to the schools as the introduction of the normal school. Many towns raise the pay of those teachers so much per month for the year who attend summer schools. Other school boards pass a vote in commendation of the teachers who attend, putting their names on record." The attendance at the Teachers' Retreat was a proof that Mr. Winship's theory is believed by teachers—and a sign too of the high regard in which they hold Dr. Dickinson and his assistants' work at Chautauqua, for it never before was so large—three hundred eighty-four persons being enrolled. The usual work on pedagogy was done. An especially delightful feature of the Retreat was the Tourist's Conferences conducted by Mr. G. E. Vincent.

The elaborate platform work announced in the spring issues of this magazine was carried out almost without a break—a great feat of organizing and executive ability. The credit of the program and its execution are largely due to Mr. Geo. E. Vincent, Chancellor Vincent's son, popularly known as George I. Mr. Vincent really holds the position of vice-chancellor at Chautauqua. His ideas for the Assembly are always high and advanced. His insight into popular taste and a student's needs is keen and correct, and he has the executive force to carry out what he attempts. The most interesting and suggestive feature of the lecture season was the tendency to lecture courses and the evident satisfaction the thoughtful listeners took in this arrangement. Several notable series were delivered by eminent persons, including Donald G. Mitchell, H. H. Boyesen, Miss Mary E. Beedy, Dr. H. B. Adams, Dr. F. W. Gunsaulus, Dr. R. T. Ely, Miss Jane Meade Welch, Prof. J. P. Mahaffy, and Washington Gladden. The opportunity this gave for following through several days the development of a line of strong thought by one man—and that one eminent as a scholar and man of achievements—was heartily appreciated. Prof.

Ely's course was conducted on the University-Extension plan, a syllabus of each lecture appearing beforehand in the *Assembly Herald* and an examination being conducted at the close. The lighter platform work was excellent. The plan inaugurated last year of putting on an entertainment each day was continued this year, and a concert, reading, or stereopticon lecture relieved the serious daily work. One brilliant entertainment not advertised beforehand occurred the night of August 30, a fire which swept away a block of buildings owned by the Assembly. The fact that the fire did not spread and that there was no loss of life or limb caused more rejoicing over the escape than regret over the loss. The Great Days of the year were immense successes—characterized by great crowds, great speeches, and great fun.

The most ambitious new feature of the season was the school of Music. The result justified the pains taken to organize this school. In class work all departments of Vocal Music, not only voice culture, reading, sight-singing, but also composition in music and harmony were included. Elocution, as it applies to music, was taught by Prof. Cumnock. The Normal department instructed those who teach in public schools and elsewhere. Private lessons were given by such eminent specialists as Profs. Ellis, Wheeler, Flagler, Sherwood, and Palmer. The music at the Amphitheater was in itself so good that it was an education. One especial advantage was the presence of that almost faultless pianist, Mr. W. H. Sherwood, whose recitals created great enthusiasm. The number of public readings was increased though it would not be possible to improve the quality. Besides Prof. Cumnock, Messrs. Cable, Riddle, and Burbank, who have read before at Chautauqua, Richard Malcolm Johnston and Leland Powers were present.

The Chautauqua Literary and Scientific Circle was an active force throughout the entire two months, and during the weeks of the Assembly proper from August 6-27, it carried everything before it. Great numbers of members were present, many circles sending representatives, and many clubs and excursions coming; the largest of these was the Brooklyn Assembly excursion composed of some three hundred C. L. S. C. members. Class Headquarters were opened promptly and the whole number from '82 to '93 were thoroughly organized for social enjoyment and C. L. S. C. agitation. The eve of Recognition Day was taken for class receptions. A more delightful custom could not be imagined. Each class was the center of a thoroughly congenial and happy company of

classmates. During the evening Chancellor Vincent and Principal Hurlbut with their wives and a few others interested in the C. L. S. C. made the rounds of the receptions, at each leaving a few words of congratulation and encouragement. The great success of this Reception evening ought to lead to its incorporation into the festivities of Recognition Day. Of that day it is hardly necessary to speak. It was as always full of the best things and ended with a new feature, a banquet for members of the S. H. G. This idea comes from the Framingham Assembly where the graduate banquet for several years has been a feature of Recognition Day.

The social side of all departments of Chautauqua life was noticeably quickened. This came largely from the fact that as years go by, each particular interest is gathering close to it more and more who are in sympathy with its object and who draw in others. The increasing number of "headquarters" help social life no little. The recognition of this fact is leading to the establishment of large numbers of such places. The Presbyterians have taken steps to erect a building before the coming season—and it will probably be in stone. The Episcopalians started a building fund, which grew sufficiently to warrant the beginning of a building. Another year will see probably the new Union Class Building for the C. L. S. C. and a chapel for the college. One of the best results of this increase in accommodations will be the increase in social life.

With all the hard work of the Assembly there was large attention given to wholesome, out-of-door life. The classes in Physical Culture were never so large and the department was strengthened by adding instructors in the Delsarte system, in Swedish exercises, and in swimming. Tennis and base ball "raged"; the tournaments and matched games being as popular as Gunsaulus himself. The authorities at Chautauqua, believe thoroughly in the "Gospel of fresh air" and are striving to provide such a variety of intelligent sports that nobody will have an excuse for omitting daily exercise.

Under all the diversified interests of the great Assembly was a deep, genuine spirituality. The work was all pre-eminently God's work. Prof. Mahaffy said in a Sunday evening talk to a great Amphitheater audience, "I asked to do only one thing when I consented to come to Chautauqua—to speak once on a religious theme." Like him the workers of the entire force asked one thing before anything else, each to put the stamp of religion on his work. Dr. Dunning said in talking of the movement, "The heart of Chautauqua is the study of the Bible."

It has never been so true as now, for never has so much and so intelligent thought been given to the place the Bible shall occupy in the Chautauqua Movement.

Bay View. The fourteenth Bay View season **Michigan.** is reported the largest and most successful ever known at that favored place. It opened on July 16 and closed August 14, and Assembly workers of wide acquaintance, who were there, commented on its completeness and excellence. Its public buildings are built for permanence, and are admirably planned, home-like, and elegant. Indeed the entire place has the appearance of a solid, well-built summer city of three hundred fifty cottages. Bay View is in a thrifty condition. Wild and expensive schemes have been avoided and a good credit maintained from the outset.

This year the erection of Hitchcock Hall, the finest building for the purpose at any Assembly, gave impetus to the Sunday-school Normal department in charge of the Rev. Horace Hitchcock, of Detroit. A fine public library and museum were also added this year, and for next season a \$5,000 W. C. T. U. building, the gift of Mrs. R. G. Peters, of Manistee, is announced.

Of the nine departments in the Bay View Summer University, foremost has been the Literary department with sixteen courses, large attendance, and the highest order of work, under Prof. David Howell. Another decided success was the new School of English Bible, and an advance step has been the unification with it of all classes in Bible instruction, from the children's classes upward.

The C. L. S. C. meetings were a prominent feature all the season. Daily Round Tables and other characteristic meetings filled the 5 o'clock hour, and the beautiful Chautauqua cottage was always a popular resort.

Recognition Day was a notable occasion, and thirty-five diplomas were delivered. President L. R. Fiske, of Albion College, gave the address. The Rev. Dr. James A. Worden stated from the platform that he had been to thirty Assemblies, and the general program at Bay View was as complete, varied, and as fine as any seen.

Drs. Gunsaulus and Henson were there, and so were Miss Frances Willard and Mrs. Angie F. Newman, Mr. Leland Powers, Frank Beard, Philip Phillips, Prof. E. E. White, Prof. J. B. DeMotte, the Rev. Dr. S. L. Baldwin, Mrs. S. M. I. Henry, the Rev. J. A. Worden, Mr. C. E. Bolton, and Prof. C. C. Case in charge of music, Mrs. Alice J. Osborne, soloist, from Boston, and the Alma Band.

A W. C. T. U. School of Methods with eminent workers in charge, ran through one full

week, and likewise a Missionary Institute with signal success.

It is said that although Michigan is one of the smallest states in population, it leads all others in Chautauqua work, in proportion to population, having nearly one-fifteenth of all the Chautauquans. This is in a large measure due to the energy of Mr. John M. Hall, of Flint, Michigan. Mr. Hall paid the original Chautauqua a visit after the close of this year's session, that he might catch whatever new ideas were to be found there.

Beatrice. The first meeting of the Beatrice **Nebraska.** Assembly closed July 8 after a session of ten days. From the beginning to the end it was a demonstration of what energy and enterprise can accomplish. The many who were present went away only to speak in its praise, and its success predicts still greater success for future years. To those having the matter in charge great credit is due for the fine program presented both as regards lecturers and instructors.

Beatrice is one of the most enterprising and beautiful young cities of south-east Nebraska. On the banks of the Big Blue River, a mile or less from the city, is a fine park of ninety acres which has been dedicated to the intellectual, religious, and moral advancement of the people. A Tabernacle capable of seating 3,000 people, three excellent study halls, a dining-hall, and tent accommodations for 2,000 people, with other accommodations in abundance, represent the amplitude of the provision made for the outer man.

Dr. John E. Earp, president of the South-west Kansas College, was Superintendent of Instruction and teacher of the Senior Normal class. He succeeded in placing over the various departments of instruction capable teachers who held the interest of the classes throughout the session. In the music presented, the young city showed that it possessed talent of a high order.

The platform talent was represented by Dr. J. B. De Motte, Dr. G. W. Miller, Dr. J. B. Young, Dr. Geo. P. Hays, Peter M. Von Finkelstein, Dr. Creighton, Robert McIntyre, Sam P. Jones, Dr. H. D. Fisher, and others, representing several social and religious organizations, of special excellence in their several lines of work.

July 5 was Recognition Day, on which occasion seven graduates, after passing through the Golden Gate, received their diplomas. Addresses were made to the class by Dr. Young and Dr. George P. Hays. The day closed with a Camp-Fire, around which a circle was formed and a praise service held.

Connecticut Valley. For the benefit of the **Northampton, Mass.** many who were debarred from attending any of the regular Assemblies, a few active and earnest men planned a Chautauqua gathering for the western part of Massachusetts. The first session was held at Laurel Park, Northampton, in 1887, and was a success. The second in 1888, met with a still better reception. And the third, from July 17-24, has just closed with larger receipts than ever before, and with bright prospects for its future career.

The lecture platform for the present year needs no comments since it comprised such men as Geo. Makepeace Towle, Robert Nourse, C. E. Bolton with stereopticon, J. H. Mansfield, Charles Parkhurst, Pleasant Hunter, C. T. Winchester, Alexander McKenzie, all with their D.D.'s and other honorable titles. Moreover the directors were peculiarly fortunate in having in their own body minute-men fully able to meet any emergency. If an advertised lecturer was compelled at the last moment to cancel his engagement, Prof. Pillsbury, of Smith College fame, stepped in and made up the deficiency.

The Normal Hour, Teachers' classes, Recognition Day, Temperance Day, with evening bells and concerts and fireworks, gave a taste to all in the western part of the state, of the original article, with all the flavor and freshness pertaining to youth.

In the entire management of the undertaking the Rev. George H. Clark, President, and the Rev. George H. Johnson, Treasurer, proved themselves practical business men, and to them the Assembly feels greatly indebted. All interested wish to join in efforts to make this newcomer in the list of Assemblies a worthy associate of all her older sisters.

Council Bluffs The reports from the **and Omaha, Iowa.** first session of the Council Bluffs and Omaha Assemblies, held June 13 to July 4, are most encouraging. All feel assured that its good success leaves no doubt as to the permanency of the institution. The management was pronounced excellent, nothing having been left undone which could add to the comfort and the pleasure of the visitor. The location is all that could be desired, and the large grounds comprising 127 acres are finely laid out and finely kept.

Among the speakers who helped make the program, as it was reported "the best possible to be devised," were the Hon. Will Cumbach, Frank Beard, Peter Von Finkelstein, Prof. Cooper, Dr. Donald Macrae, Dr. George P. Hays, the Hon. G. W. Bain, Dr. W. L. Davidson. The beautiful and commodious Amphitheater, which has a seating capacity of 6,000, was often put to a test

to provide room for all who wished to hear the entertainments offered. Among special days during the session were Temperance Day, Independence Day, and Grand Army Day, all of which were celebrated with imposing services.

On Recognition Day, June 24, the usual exercises were observed and diplomas were presented to ten graduates. As is always the case, this was looked upon as the great day of the season, and enthusiastic Chautauquans, auguring from its success and delights, look forward to its arrival in future years with hope. Larger classes will be expected on each ensuing year.

Dr. Gillet, the Superintendent of Instruction, made at the close the following statement of the number of classes, entertainments, etc., that have been enjoyed by the Chautauqua visitors this season. The summary is as follows: fifty-one lectures, fifteen sessions of first year Normal class, thirty sessions of Boys and Girls' class, thirty chorus rehearsals, eleven Assembly Bible class meetings, eleven meetings of Greek class, ten meetings of Voice Culture class, eighteen meetings of Elocution class, thirty Concerts, five Literary lectures, eight Medical lectures, fourteen meetings of C. L. S. C., two Vesper meetings.

At the final meeting of the C. L. S. C. Round Table, a branch of the Council Bluffs and Omaha Assembly was formed, composed of four officers, seven executives, one organizing secretary, and thirty county secretaries. It is to be the work of this branch assembly to organize local circles throughout the adjacent towns and townships. A resolution also passed by this executive committee to aid, in every way possible, its Chautauqua Assembly.

Crete, Before the eighth annual session of **Nebraska.** the Crete Assembly had closed, active preparations were making for the ninth—a fact which tells the whole story as to the successful outcome of the present season. The Assembly opened on June 27 and for the thirteen days of its continuance all those present congratulated themselves on their good fortune in being there. The platform program is pronounced the most superior in every respect of any yet presented. The music under Dr. Palmer more than met even the high expectations regarding it. And in all of the Chautauqua work proper—the Sunday-school and C. L. S. C. departments which form the foundation of the entire enterprise—the highest satisfaction was expressed. Dr. Dunning as Superintendent of Instruction kept every part of the work well manned and spared no pains in order that all requirements should be met.

Among the propositions made for the next session was one for holding a Teachers' Retreat of

two or three weeks. It met with general favor and may be regarded as one of the regular features of the Assembly hereafter. A committee, consisting of Dr. Duryea, President Foss, Prof. Sweezy, and Prof. Bessey, was appointed to arrange a course of study and provide instruction.

On Recognition Day thirteen graduates passed through with the customary regulations and received the C. L. S. C. diplomas. A finely adapted address was made to the class by Dr. Alexander McKenzie, of Harvard University. Much enthusiasm was shown in the organization of the Class of '93. The Chautauqua spirit proved contagious and over fifty names were enrolled, with the prospect of a large increase.

Island Park, Indiana. The eleventh session of this Assembly was held July 31 to August 12. There was a larger daily attendance, probably by one-third, than at any former Assembly. This gave not only encouragement to the management, but an inspiration to all the workers, both on the platform and in the classes. The devotional meetings each morning were seasons of great religious interest, and were well attended by the residents. The Class Department was characterized by large attendance and intense interest.

Dr. M. M. Parkhurst daily conducted the Ministers' Institute; Mrs. D. B. Wells and Miss C. B. Sharp, the Woman's Work Institute; Dr. A. C. Barnes, the Chautauqua Normal; and the Rev. J. E. Irvin and Miss Lura Love, the Boys and Girls' class. The special classes were: Kindergarten, taught by Miss Lottie Daniels; Physical Culture, Miss M. Scidmore; Wood-carving, Miss Dill; and Painting in oil, Mrs. C. B. Hare. The platform was a scene of continual attraction. The Otsego Cornet Band discoursed first-class music. Its reputation led to great expectations, and the audience was not disappointed. Prof. S. H. Blakeslee, music director, has few equals. The concerts he gave with the special talent, assisted by his large chorus, were complimentary to his ability as an organizer and instructor.

Lectures were delivered by Joseph Cook, Gen. O. O. Howard, Gen. W. H. Gibson, Sam W. Small, M. M. Parkhurst, L. A. Belt, A. J. Fish, R. M. Barnes, Geo. P. Hays, J. A. P. McGaw, Prof. J. B. DeMotte, Prof. C. E. Stokes, Francis Murphy, A. C. Barnes, T. C. Read, Professor Underhill, Dr. J. B. Stemen, H. S. Gekler, T. C. Jackson, and others.

The great days were Grand Army with Generals Howard and Gibson speakers; W. C. T. U. Day, with Sam W. Small and A. J. Fish; and Temperance Day, with Francis Murphy, Generals Howard and Gibson, and A. C. Barnes.

Recognition Day was unusually interesting.

The attendance was very large, many members of the C. L. S. C. being present from Indiana, Michigan, and Ohio. The orators of the day were Dr. Geo. P. Hays and Dr. C. H. Payne. Eleven graduates received their diplomas at the hands of the superintendent, the Rev N. B. C. Love, who presented them with well chosen words.

A Union C. L. S. C. organization was perfected; and thorough work in the interests of the C. L. S. C. will be done in the patronizing territory of this Assembly.

Already the program for 1890 is being prepared. The Rev. N. B. C. Love holds the positions of President and Superintendent of Instruction, and he has been secured in the same positions the ensuing year. The Rev. L. J. Naftzger, the Secretary and Assistant Superintendent, has done excellent service, and will retain his positions another year. The management is congratulating itself upon its financial success this year. The receipts very considerably exceed the expenditures, and there is great hopefulness for the future.

Kansas, Topeka. A most attractive program was presented at the Kansas Assembly during its session from June 25 to July 4. The lecture corps included Bishops Vincent and Ninde, Robert McIntyre, the Rev. Drs. Geo. C. Lorimer, J. L. Hurlbut, Wm. Butler, G. W. Miller, J. B. Young, President McVicar, of Washburn College, and other well-known speakers.

June 27, Recognition Day, found over 10,000 people on the Assembly grounds. The C. L. S. C. procession escorted to the Golden Gate the graduates who then passed through the Arches to the Hall of Philosophy for formal Recognition by Chancellor Vincent. Passing next to the Tabernacle, the address to the graduates was delivered by Bishop Vincent, and fifty-five diplomas were conferred. Many of these diplomas were well decorated with seals, one alone bearing twenty-eight. A Camp-Fire and a "ghost procession" were features of the evening.

June 29 was Oxford League Day, and July 2 was devoted to the interests of children. The orators on Independence Day were Dr. Jesse Bowman Young, who gave "Chapters from a Story: What a Boy saw in the Army," Robert McIntyre, whose subject was "The Iliad of America," and Dr. G. W. Miller, who told some of his experiences in the "Shadows and Sunshine of the War."

The special classes were well attended. They included Sunday-school Normal, Greek, Oratory, and Vocal and Instrumental Music. Woman's

missionary work was a prominent feature of the Assembly. This department was in charge of Mrs. Bishop Ninde, assisted by active leaders in home and foreign fields.

Lake Bluff. The Assembly—July 24 to Aug. Illinois. 6—was a success. Hitherto not much stress has been laid upon the Chautauqua features of the work. This year, for the first time, the Arches were erected and graduates of '89, as well as many former graduates of the C. I. S. C., passed through the Golden Gate.

The Normal department registered more students than any previous year. The Senior class was instructed by the Rev. C. M. Stuart; the Bible section, the Rev. H. G. Jackson; the Teachers' section, the Rev. H. W. Bolton. Graduating exercises of this department were held. Short speeches were made by representatives of each class; and prizes and diplomas presented.

At the Devotional Hour the Rev. W. H. Holmes gave a series of twelve carefully prepared Bible readings on the subject of the Redemption.

Among the speakers were Bishops Ninde and Fitz Gerald, Dr. J. P. D. John, J. M. Foster, the Rev. R. McIntyre, and G. W. Platt.

The new features of the year were schools in Photography and Microscopy. A special building was provided for their work, and it was filled to overflowing with enthusiastic students. The devotees of microscopy included many school teachers desirous to learn enough of it to use in their own work.

The Round Tables were inspiring. At some of the meetings the members gave their "experiences" in the form of written reports.

On Recognition Day services were held under the auspices of The Chautauqua Illinois Union. The address of the day was by Dr. H. G. Jackson. The Assembly graduated thirty-one persons, nineteen of whom were present. A Camp-Fire was held and speeches made by Dr. Patten, the Superintendent of the Assembly, and by others.

The work at Lake Bluff seems to be shaping in the direction of Summer Schools for teachers in the line of Science, Art, and Language.

Lakeside. A large increase of attendance over Ohio. previous years is reported from this session which was held from July 22 to August 4.

The usual work was done in the Boys and Girls' meetings, Normal classes, Primary Teachers' Conferences, under the direction of the Superintendent, the Rev. B. T. Vincent, aided by the Rev. H. M. Bacon, D.D., the Rev. C. W.

Taneyhill, Mrs. B. T. Vincent, and others. Elocutionary instruction and kindergarten class work were added this year and were successful. Congresses were held in the interests of general church work and special Sunday-school advancement. The Sunday-schools, one under the superintendency of the Rev. W. F. McMillen, and the other under that of Mr. W. M. Day, were models of order and of instructive value.

The sermons by Bishop Vincent, the Rev. Drs. Buckley, McGaw, and Dowling were all able, and were listened to by great audiences.

The lecture course this year exceeded that of any previous year in brilliancy. Bishop Vincent, Joseph Cook, and Dr. Buckley were at their best in lectures and in answering the questions with which they were flooded. Other lecturers, such as Drs. Gunsaulus, Ladd, McGaw, Dowling, Grennell, Messrs. C. E. Stoakes, G. W. Edmundson, Leon H. Vincent, and Dr. L. B. Sperry gave able discourses on their respective themes.

The music was of an unusually fine character. Prof. B. M. Myers had charge, and with a most excellent band of wind and stringed instruments, able vocal soloists, among whom was Miss Geneva Johnson, of Chicago, and a well drilled choir, the best of work was done in this line.

The C. I. S. C. work greatly advanced. The presence of the Chancellor himself added great interest. He conducted Round Tables and Vesper Services. He delivered the oration on Recognition Day and presented the diplomas to the goodly number of the Class of '89 who were present. The procession was the largest in the history of Lakeside. The Arches were passed, the song and greetings followed; a vast audience filled the spacious Auditorium and thousands felt the uplifting influence of the Chancellor's able address.

It is probable that a Hall will be built during the coming year as headquarters for the C. I. S. C. and Normal alumni; and enthusiasm for advancement in these and in all lines is great. These charming grounds with all their provision for the best recreative and culturing benefits are being more appreciated and crowded year after year, promising a brilliant and profitable future.

Long Beach. July 18 was observed as Recognition Day at Long Beach. The Rev. Dr. Hirst, President of the Pacific Coast C. I. S. C., the Rev. Dr. Sinex, of Monterey, the Rev. A. J. Marks, of Chicago, and Mrs. M. H. Field, Secretary of the Pacific Branch, addressed the graduating class. The floral decorations of the arches and platform were elaborate and beautiful.

At the Round Table held in the afternoon it was found that twelve circles were represented from California, three from Kansas, two from Michigan, Wisconsin, and Iowa, one from New York, Ohio, Pennsylvania, Massachusetts, and Oregon, twenty-six in all.

The committee of the circles of Southern California appointed to draw up resolutions regarding next year's Assembly, declared it their earnest wish that a yearly session be held at that place in co-operation with the officers of the C. L. S. C. of the Pacific Coast.

Mahtomedi, The Assembly this year was **Minnesota,** held from July 24 to August 6, and was divided into three parts: July 4 to 16 preliminary session with a Prohibition rally, July 4, with address by M. J. Fanning, a concert and elocutionary entertainment July 13, under the direction of Mrs. T. J. Preece; July 16 to 24, Bible School, under the auspices of the Y. M. C. A., with T. Gratton Guinness, of London, and others as instructors; July 24 to August 6 the Assembly, with the usual Normal, Primary Teachers, Physical Culture, Voice Culture, Elocution, Mental Training, and C. L. S. C. work, with lectures and concerts.

Dr. J. E. Gilbert and Miss Ida Anderson had charge of the Normal and Primary classes. Miss Esther Pugh, treasurer of the National W. C. T. U., directed the W. C. T. U. School of Methods. Prof. Schram conducted a Mental Training School. Mrs. T. J. Preece had classes in Voice Culture and Physical Training under the Delsarte system. Prof. Weston directed the Gymnasium and Swimming School. Mrs. C. H. Smith conducted a Jenness-Miller school.

The lecturers were Dr. Talmage, Peter F. Von Finkelstein, Prof. W. M. R. French, Prof. Freeman, Dr. L. G. Hay, the Hon. H. S. Fairchild, Prof. Hillman with the phonograph, and others. We also had Signor G. Vitale, the violinist, and the Mendelssohn Quartet, besides our local talent.

The C. L. S. C. interests were well taken care of, and at the close of the Assembly a movement for a Hall in the Grove was inaugurated with a subscription for nearly one-half the amount necessary to complete the building. The whole amount will be raised before January 1.

They made a little innovation in the manner of conducting the candidates through the Golden Gate on Recognition Day. They had four Arches with the Golden Gate in the last one. Through the first gate all Chautauquans passed; through the second only those of '89, '90, and '91; through the third only those of '89 and '90; and through the Golden Gate, of course, only '89's passed.

The C. L. S. C. interests are growing rapidly

in Minnesota, and the Assembly management propose to push the work of circle formation this fall and winter.

Considering all the circumstances and the obstacles we have to contend with, we feel very much encouraged and are already planning for '90.

Missouri, As the result of much energetic work the third session of the Missouri Assembly from July 17-27 was a great success. It reports that the state is awaking to the importance of the work done at this meeting.

Every morning four Normal classes were held. The Advanced Normal under the direction of Dr. Jesse B. Young; the Biblical, Dr. Russell; the Young People's, Mrs. S. Knight; the Little Folks, Mrs. M. E. Steele. Fine work was done in these classes. A class chorus under the efficient direction of Dr. Herbert furnished excellent music. A series of lectures devoted to the study of English Literature was given to a large class, by Prof. J. W. Ellis, and was deservedly popular.

The following interesting lecturers were present: Dr. J. D. Hammon, the Hon. Will Cumback, Dr. Jesse Young, Dr. Willets, Chas. W. Stevenson, the Rev. B. F. Boller. Dr. M. B. Chapman gave a number of interesting talks on missionary topics. A *Daily Assembly Herald* was published throughout the session and was found a great help in the work.

Round Tables were presided over by Dr. Russell, the Conductor of the Assembly, and things Chautauqua were discussed with much spirit. Dr. Russell, if possible, was more enthusiastic and earnest than ever before.

The Recognition Day services were led by Dr. Russell and the address given by Dr. Geo. P. Hays, on the subject "Sentiment in Education." Eight Missourians were given diplomas. A Camp-Fire closed the Assembly. Dr. Young was elected President of the Missouri Chautauqua Association. There are now two thousand Chautauquans in the state, and their organization is very efficient, and as a result circles are rapidly increasing.

Monona Lake, The two weeks' session—**Wisconsin.** July 23 to August 2—at the Monona Lake Assembly was characterized as most successful.

There were lectures from Dr. Raymond to the clergy; from Dr. Gladden on economic questions; popular lectures by Dr. Talmage, Dr. Gunsaulus, Joseph Cook, General Howard, Prof. De Motte, Frank Beard, and others. Dr. Palmer was the musical director. The Normal department was under the charge of Dr. J. A.

Worden, and Mrs. Knox was at the head of the Primary Sunday-school work. Thus equipped, every division of the Assembly work was most ably and satisfactorily carried forward, and resulted in great good to all in attendance.

On Recognition Day the Class of '89, numbering fifty-one persons, passed between the open ranks of the undergraduate classes, through the Golden Gate and under the Arches, receiving the tributes of the flower misses. As the head of the Class of '89 came through the arches the choir sang "A Song of To-day." The class took seats in the temple and were formally recognized by Professor Shearer. Marching from the Rustic Temple to the Tabernacle, the graduating class took seats upon the platform with the officers and directors of the Assembly. The Rev. Joseph Cook, of Boston, delivered a thoughtful address, which was full of prophetic interpretations of the religious cause.

The prospects for the Class of '93 are reported as very good, and everything possible is to be done to increase the number of local circles in that region. The Hon. Elisha Coleman, of Fond du Lac, was chosen President of the State Association, and Miss Manning, of Oshkosh, Secretary.

Mountain Grove, August 7th, Recognition Pennsylvania. Day at Mountain Grove, was bright and cloudless, and Chautauquans were jubilant. At ten a. m. songs and responsive reading began the services. The Rev. B. B. Hamlin, D. D., of the Central Pennsylvania Conference was the speaker of the morning, his topic, "Learning to Read."

At one o'clock Chautauquans, preceded by flower girls, formed in a grand march, passing under the Arches according to rank, and filling the space assigned them in the audience. A quartet of vocal music followed the opening devotions, and the class poem was read by Prof. Will S. Monroe, a member of 1889. Rev. Dr. J. S. Judd, of Lewisburg, Pa., made the address to the class, and among other good things advised all to "learn something of everything and everything of something."

He presented diplomas to twenty-four graduates who were recognized by loud applause and the Chautauqua salute. In the evening the first Camp-Fire was held and it was a brilliant success. Short services, followed by remarks from members, reports of committees, and spirited songs closed the first hour; and then came the corn-roast, which delighted all. Several recruits for '93 were mustered in.

Mountain Lake Park, The Chautauqua of the Maryland. Alleghanies lies in that picturesque belt of mountain glades and atmos-

pheric pleasures, three thousand feet above the sea, on the line of the Baltimore and Ohio Railroad between Baltimore and Wheeling. The great Park of nearly one thousand acres wooded by ancient white oaks is laid out in broad avenues, and studded everywhere with beautiful cottages. The water is abundant and delicious, the wild flowers bloom everywhere in nameless varieties, and the air is a positive and exhilarating tonic.

The session held from July 30 to August 12, was a success. The Normal work was maintained by the Revs. J. B. VanMetre, George Elliot, and W. H. Leatherman. The Kindergarten, schools of Photography, Art, and Vocal Music were in the hands of eminent instructors.

Grand Army Day was graced with the presence of President Harrison.

Popular lectures were delivered by Drs. Van Metre, Scott F. Hershey, C. E. Bolton, Col. Alex. Campbell, and others.

Recognition Day was a prominent feature. The day itself was perfect. The C. L. S. C. Classes gathered under the big trees and had the march, under Marshal Armstrong. The Auditorium was handsomely decorated. The songs, responsive readings, and class poem, contributed to the occasion. The Rev. Mr. Elliot said words of recognition to the Class of '89 composed of ladies and gentlemen. The Rev. H. C. Pardoe delivered the graduating address on "The Trend of Anglo-Saxon Civilization during the present Century." The diplomas were presented, the Chautauqua salute given to the class, and blank applications for membership handed to each person in the audience. The day closed with a Camp-Fire, roasted corn, songs, etc.

The Round Table exercises during the Assembly were full of interest, and among other good things recommended the management to construct a real "Round Table" for 1890, and the organization of classes in botany and geology. President C. W. Baldwin is greatly encouraged at the outlook of the Assembly.

New England, The tenth session of this Framingham, Mass. Assembly was most prosperous. The program was brilliant, the classes well manned, and the C. L. S. C. largely represented. It was held from July 16-26.

One of the pleasantest days was that given to the children; exercises by Miss Lucy Wheelock's class took place in the Auditorium, followed by Dr. Dunning's lecture to children on "The New Pilgrim's Progress"; in the afternoon a children's meeting in charge of the W. C. T. U. was held; the evening concert was followed by a bonfire for the especial benefit of the little folks. Christian Endeavor and Fra-

mingham Normal Union Day had an appropriate program, with addresses by the Rev. F. E. Clark and the Rev. Dr. R. S. MacArthur. Gen. O. O. Howard and Gen. G. L. Swift were the orators of Grand Army Day. Musical Day closed the season, with a grand concert in the afternoon and another in the evening.

Four hundred thirty-one graduates marched to the Hall on Recognition Day where they were received by Principal Hurlbut. The commencement oration was then delivered by the Rev. Dr. Alexander McKenzie. Class reunions filled the remaining hours of the afternoon, and at six o'clock four hundred C. L. S. C. alumni sat down to a banquet in the Hall. Toasts and music added to the delights of the occasion. At a later hour a procession of ghostly beings took possession of the Auditorium and created much amusement until diplomas were awarded to them, when they disappeared as mysteriously as they came.

The Sunday-school Normal classes were instructed by Drs. Dunning and Hurlbut and the Rev. R. S. Holmes. Prof. Schaufler conducted the chorus drill. Meetings were held daily by the W. C. T. U. and a short address given at each one.

The list of popular lecturers was a long one, and included Robert Nourse, Jahu DeWitt Miller, R. S. Holmes, and J. M. Buckley. The elocutionist George Riddle gave two very acceptable entertainments.

Ocean City, The Ocean City Chautauquans New Jersey. had a most delightful season together, from July 9-14. Every one present was interested and all were sorry when the end came.

Recognition Day will long be remembered as a most delightful occasion. Ten of the fourteen graduates were at the entrance to the Golden Gate under the arch of history. At the proper signal, the graduating class passed through the gate, and under the remaining arches of science, literature, and art. The last was adorned with the daisy, mingled with the evergreen. At the close of the Recognition Service, the C. L. S. C. march was conducted by the President. The Class of '89, followed by undergraduates and former graduates was the order. The Rev. C. B. Ogden, Class of '89, then read the class poem. The address was made before the graduates by the President, the Rev. J. S. Parker, and the C. L. S. C. diplomas were awarded by Mrs. L. H. Swain.

The Rev. C. B. Ogden represented in chalk the story of the Argonauts in their sail for the golden fleece. The subject was happily applied to the Class of '89, just graduating, who have attained

the Golden Fleece of knowledge, the result of their four years' toil.

The following letter from Chancellor Vincent, written especially for the Ocean City Assembly, was read by the President:

DENVER AND RIO GRANDE R. R., July 2, 1889.

Hearty greetings from the Wasatch Mountains on this glorious summer day to the members of the C. L. S. C. who gather for rest, rejoicing, and refreshing by the shores of the Atlantic!

Amidst the glories of nature, as revealed by the side of the restless sea, or on the summits of the towering hills, we Chautauquans think of Him to whom we give all glory, and from whom we receive all grace, grace fuller and wider than the ocean, and loftier far than any mountains.

To Him let us open our intellects that He may fill them with His wisdom, and our hearts that He may flood them with His love.

Yours in C. L. S. C. bonds,

JOHN H. VINCENT.

"The Lighting of the Camp-Fire," a special service prepared by the President, and followed by the usual Camp-Fire service, was made doubly attractive by the lighting of the fires by three young ladies, who gave appropriate selections.

Ocean Grove, The first two days of Ocean New Jersey. Grove Assembly were devoted to the Societies of Christian Endeavor. The Rev. F. E. Clark, founder of the society, and many others actively engaged in the work, delivered the addresses. The Normal classes began on the third day and continued throughout the session.

A peculiarity of this Assembly was that all days were special days; they followed those of the Christian Endeavor in this order: Teachers', Home, Temperance, Superintendents', Missionary, Teachers', Baccalaureate, Examination, and Commencement. The evenings were given to popular lectures and entertainments, among which were "The Natural History of an Idea," by Dr. Merritt Hulburd; three Oriental entertainments by Peter Von Finkelstein, of Jerusalem; a stereopticon lecture on "The Pharaohs," by the Rev. Henry A. Starks; "From Dan to Beersheba," by Dr. S. S. Vernon; and several concerts by the chorus and the Syracuse University Quartet. The Baccalaureate sermon was preached by the Rev. Dr. C. H. Payne.

Sixty graduates were present to receive diplomas from Dr. E. H. Stokes, President of the Assembly. Many of these diplomas bore from three to seven seals. The orator of the day was Dr. Payne. The afternoon meeting of Ocean Grove alumni called together a large number. A reception in the parlors of the Arlington and

a C. L. S. C. Camp-Fire on the sea-shore closed the pleasantest Commencement Day in the Assembly's history.

Ocean Park, The ninth annual session of **Maine,** the Ocean Park Assembly opened on July 25, and continued until August 3. A very delightful occasion these opening exercises proved, with the bright and spicy speeches and the inspiring music. Every one felt that the session was well launched, a prediction fulfilled by the successful days that followed. Among the lecturers who interested and instructed the audiences assembled in the Temple were the following: Prof. T. L. Angell, Prof. Southwick, the Rev. J. R. Crosser, Dr. Summerbell, the Rev. A. E. Winship, the Hon. J. W. Patterson, Dr. B. F. Hayes. The concerts and all the music of the session were highly enjoyable. The instruction in the different special departments was ably conducted and all who tested it declared themselves greatly pleased and benefited by it.

Recognition Day, August 1, was the great day of the C. L. S. C. There was a procession of the members of the C. L. S. C., headed by a band. Behind the band and before the Chautauquans marched twenty flower children, decked with garlands, and bearing the spoils of woods and gardens. The graduates passed through the Golden Gate beneath the flag-draped arch that represents history, then through the evergreen arch of science, and an arch of beautiful ferns representing literature, and lastly beneath the floral arch of religion. This last was a mass of flowers. The flower children strewed the way with their treasures. After a brief parade, and the private Recognition services held in the chapel, the address was delivered in the Temple, and diplomas were conferred upon twenty-six graduates. The recognition address deserved the high appreciation it received. The Rev. Alexander McKenzie, D. D., was the orator. The Temple was beautifully decorated with flowers and mottoes. It was a bright and successful day.

Ottawa, This last season was distinguished **Kansas,** by the perfect weather, good attendance, admirable entertainments, and beneficial work done.

The educational department was well kept up. It was estimated that perhaps two thousand persons, including children, were instructed. A Little People's Class and a Children's Class were under the wise guidance of Miss Carrie Brooks.

A Ministers' Institute was held; and a series of morning talks given at each session by Dr. Hays attracted a great many listeners.

Music abounded. Dr. Palmer was the director and instructor, and led a large chorus and

taught a harmony class. The chorus wisely formed itself into a permanent musical association, including members from Kansas and western Missouri. Miss Park charmed the audiences with her cornet.

The lecture course embraced the Rev. Wilbur Davidson, Dr. Henson, the Hon. Geo. W. Bain, Prof. Radford, Dr. J. T. Edwards, Peter Von Finkelstein, Dr. Geo. P. Hays, Dr. Geo. W. Miller, and Mr. Noble Prentiss.

Special Days were observed. On G. A. R. Day Senator Ingalls and Corporal Tanner made stirring addresses. On Temperance Day the W. C. T. U. held a conference and the Hon. G. W. Bain lectured. Children's Day was a happy time.

The "event of the season" was the arrival of Bishop Vincent, who was royally welcomed. He lectured on "Among the Heights" and gave the address on Recognition Day. Diplomas were granted to fifty, the largest number ever given at Ottawa.

In the brief talks around the Camp-Fire the past of Chautauqua was discussed by Dr. Henson, and its future by Dr. Hurlbut.

Pacific Coast, The tenth anniversary of the **Monterey, Cal.** founding of this Assembly was celebrated as a jubilee year by the large number of C. L. S. C. members on the Pacific Coast. Bishop Vincent, who visited California ten years ago, and organized the Pacific Branch, returned to assist in the celebration of the decennial. Other friends from east of the Rockies were Bishop Warren, Col. L. T. Copeland, and the Rev. A. J. Marks, whose names appeared frequently on the program. The length of the session was from July 1-15, and each day's program was rich and full. The recently dedicated Assembly Hall was crowded daily to its utmost capacity.

Commencement Day was attended with the usual pleasant features,—the procession, music, flower girls, a gayly decorated hall. The class was addressed by Dr. A. C. Hirst, President of the Assembly, and by Chancellor Vincent. The banquet and reunion of alumni in the evening brought together nearly two hundred fifty members and friends of the C. L. S. C. The Rev. Dr. Sinex responded to the toast "The Alumni," Dr. Hirst to that of "Our Tenth Anniversary," and Bishop Vincent, "Chautauqua National and International."

The daily Normal classes enrolled over a hundred students and the thorough work done was very gratifying to the instructors. The other departments were well attended. They offered opportunity for the study of Structural and Systematic Botany, Marine Botany, Conchology, Art, and Music. Plans are making for adding to these

branches next year. A popular feature of several days was the science excursion; the teachers conducted their pupils to the beach and hills to study nature in her own abodes. The wealth and beauty of life in the bay and ocean about Monterey furnished an unfailing delight to the students. Other excursions left the grove daily for the many points of interest within a few hours' ride.

The Vesper Service was introduced at Monterey this year under the leadership of Dr. Hirst. The daily Round Tables proved helpful to Chautauquans, giving them a broader knowledge of the Chautauqua institutions and its practical work.

Pertle Springs, Missouri. One of the most successful events in the history of the Sunday-school work of the Cumberland Presbyterians is reported as having occurred at the eighth annual session of the Pertle Springs Assembly held for two weeks in August last. The projectors of the enterprise were overwhelmed, as the attendance went far beyond their expectations and consequently the preparations fell far short of what was demanded in the way of hotel accommodations. The crowding, however, only served to call out the good traits of character and to dispose every one to cheerfully make the best of the situation. The management declare that another year they will be ready for all who may come.

Ample preparation, however, had been made for all the services of the Assembly. The best talent of the church had been obtained for both the lecture platform and for the different departments of instruction. Among those who spoke were the following persons: Dr. Foster, the Rev. J. M. Hubbert, Prof. A. R. Taylor, the Rev. R. G. Pearson, Mrs. Ewing, and Mrs. Foster.

The reception and recognition of members at the opening was a unique affair. Each school having fifteen or more delegates present was allowed five minutes. This time was occupied, as each might choose, in speeches, songs, or otherwise. Odessa came to the front with the largest delegation, it being more than fifty strong. Others worthy of note were Kansas City, St. Louis, Knobnoster, Kirksville, Warrensburg, and Sedalia. As each delegation marched to the platform, music was rendered by the Warrensburg band. The evening's exercises were conducted in the happiest manner by the President, A. C. Stewart, of St. Louis, who is universally recognized as the right man in the right place. The report of the statistical secretary showed the total number of scholars in the state to be 7,173.

Piedmont, Atlanta, Ga. A correspondent thus describes the grounds of the Piedmont Assembly: "The distances here, like those in Washington, are magnificent. One of the engineers who planned the original Crystal Palace in London laid out the grounds. The Tabernacle is an amphitheatral structure of vast dimensions, but the finest acoustic properties. Another building, colossal in size, is crowned with a Moorish dome, while another, a huge, white, wooden edifice, with here and there a row of Oriental windows, porticoes, and balconies all around its façade, sends up a slender minaret above the forest growth into the blue Southern sky. What with the flower beds, the emerald green lawns, the winding, pebbly, yellow-sanded walks, the fountains, the domes, the towers, and white gleaming walls, and the swell of the music, I felt as if I had stepped from New York to Bagdad, and time had rolled backward in its flight to the days of good Haroun Alraschid. Now, when all this is lighted with electric arcs in colored glass cups around every flower bed, and all over the minarets, towers, and domes, the resemblance to an 'Arabian Night's' dream are still further enhanced."

The prospectus announced that the session would continue from July 10 to August 21, but the management decided to extend it to August 31. The list of lecturers included Counselor J. H. Carlisle, Bishop Joyce, the Hon. G. W. Bain, the Hon. J. C. C. Black, Drs. P. S. Henson, Geo. P. Hays, A. N. Willits, J. D. Miller, Robert Nourse, J. B. De Motte, Earl Cranston, and others.

Normal classes and Round Tables were held daily, and there was a large number of special classes. Much of the success of the session is due to the untiring work of Dr. A. H. Gillet, the Superintendent of Instruction, who was the first to organize a Southern Assembly, and has taken charge of three in that part of the Union.

Henry W. Grady, editor of the *Atlanta Constitution*, and Vice-president of the Piedmont Association, says of the Assembly: "We have the endorsement of the very best people, and every leading influence in the state sustains us. Governor Gordon and our Senators have spoken here, and we command just what talent we want from any part of the Union."

Riverview, Ohio. The rich program and numerous special classes of the first session of Riverview Assembly, called there thousands of people from all parts of the Ohio Valley. The Teachers' Retreat opened June 7 and provided a three weeks' course of instruction for Sunday-school and secular teachers. The state superintendent of schools was present to deliver the address of welcome.

A platform meeting on the evening of July 2 opened the Assembly. The special days observed in the three weeks following were: Grand Army Day, with a parade, an oration by General B. R. Cowen, and the evening given to music on the river, an illuminated fleet, and fireworks; Missionary Day, with a missionary conference led by Miss Isabella Thoburn; Educational Day, on which Dr. J. C. Hartzell discussed "The Educational Problem in the South"; Y. M. C. A. Day, providing for a conference conducted by Mr. George Houser; College Fraternity Day, on the evening of which a banquet was tendered to the Press Club and members of college fraternities; and, lastly, Recognition Day, observed with all the usual ceremonies, Jahu De Witt Miller delivering the oration.

Among the other program attractions were lectures by Dr. M. C. Lockwood, W. G. Warner, W. L. Davidson, J. A. Green, C. E. Stoaks, Peter Von Finkelstein, Dr. P. S. Henson, Dr. A. S. Dobbs, the Rev. B. F. Dimmick, Dr. J. B. De Motte, B. E. Hellman, and Joseph Cook, and several concerts and other entertainments.

Round Tables met daily for an hour and the interests of the C. L. S. C. were well cared for. It is hoped that this new Assembly will become a permanent institution.

San Marcos, Texas. This session of the Assembly was by all means the most successful one of the five thus far held at this place. The attendance largely exceeded any previous time, and the program of platform exercises was universally declared by all attendants to be the best ever had. The management are highly elated at their success.

There was a course of lectures, extending through the term of thirty days, by the President, the Rev. John E. H. Galbraith, on Grecian History, with reference to mythology and the earlier periods; and by the Rev. H. M. DuBose, the Superintendent of Instruction, entitled "Half Hours with English Authors"; and other short lectures on such subjects as "English and American History," "Electricity" with experiments, "Physiology," etc.

The meetings of the Round Table were uniformly well attended; the minimum attendance being much in excess of the maximum of any former session, evidences a growing interest in the work.

On July 30, a large number were present to take part in the Recognition Services. The platform was tastefully decorated with appropriate arches and mottoes. An essay was read by a lady of the Class of 1890. At the Camp-Fire C. L. S. C. songs were sung and toasts proposed and responded to.

The C. L. S. C. received an impetus at this session of the Assembly, and it is the opinion of all who have expressed themselves, that the work not only is a source of great pleasure, but that it affords most valuable opportunities for the cultivation of heart and mind.

Silver Lake, New York. The dedication of the new Hall of Philosophy at Silver Lake Assembly was the pleasant ceremony on the morning of Opening Day, July 16. The building contains a music hall and eight large class rooms, and is beautifully located in the new St. Paul's Grove.

On the following day the classes began their three weeks' work. The attendance was large in the many departments. Courses were offered in eight branches of Bible study, in Language, Music, Art, Oratory, Stenography, Typewriting, Penmanship, Memory, and Physical Culture. During the Woman's Foreign Missionary Society Institute, which was in charge of Mrs. Wm. Butler, one of the founders of the society, two courses of lectures on missions were given.

The attendance on Grand Army Day was about 5,000. Bishop Newman delivered an address on Grant and Logan, after which a Silver Lake Veterans' Association was formed to meet at the Assembly grounds from year to year. Young People's Society Day was another grand success. The program for the session included many able speakers, among whom were Bishops Vincent and Mallalieu, Drs. J. L. Hurlbut, Wm. Butler, D. W. C. Huntington, J. W. Bashford, the Hon. Will Cumback, H. H. Ragan, the Revs. Sam Jones and Sam Small, and Sau Ah-Brah. The music was of a high order, and the elocutionists were all Chautauqua favorites.

Recognition Day was a special excursion day and brought a great crowd to witness the celebration. The decorations, music, banners, and general air of festivity made it a day long to be remembered. Principal Hurlbut delivered the address to the graduates and awarded the diplomas.

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A platform meeting on the evening of July 2 opened the Assembly. The special days observed in the three weeks following were: Grand Army Day, with a parade, an oration by General B. R. Cowen, and the evening given to music on the river, an illuminated fleet, and fireworks; Missionary Day, with a missionary conference led by Miss Isabella Thoburn; Educational Day, on which Dr. J. C. Hartzell discussed "The Educational Problem in the South"; Y. M. C. A. Day, providing for a conference conducted by Mr. George Houser; College Fraternity Day, on the evening of which a banquet was tendered to the Press Club and members of college fraternities; and, lastly, Recognition Day, observed with all the usual ceremonies, Jahu De Witt Miller delivering the oration.

Among the other program attractions were lectures by Dr. M. C. Lockwood, W. G. Warner, W. L. Davidson, J. A. Green, C. E. Stoaks, Peter Von Finkelstein, Dr. P. S. Henson, Dr. A. S. Dobbs, the Rev. B. F. Dimmick, Dr. J. B. De Motte, B. E. Hellman, and Joseph Cook, and several concerts and other entertainments.

Round Tables met daily for an hour and the interests of the C. L. S. C. were well cared for. It is hoped that this new Assembly will become a permanent institution.

San Marcos, Texas. This session of the Assembly was by all means the most successful one of the five thus far held at this place. The attendance largely exceeded any previous time, and the program of platform exercises was universally declared by all attendants to be the best ever had. The management are highly elated at their success.

There was a course of lectures, extending through the term of thirty days, by the President, the Rev. John E. H. Galbraith, on Grecian History, with reference to mythology and the earlier periods; and by the Rev. H. M. DuBose, the Superintendent of Instruction, entitled "Half Hours with English Authors"; and other short lectures on such subjects as "English and American History," "Electricity" with experiments, "Physiology," etc.

The meetings of the Round Table were uniformly well attended; the minimum attendance being much in excess of the maximum of any former session, evidences a growing interest in the work.

On July 30, a large number were present to take part in the Recognition Services. The platform was tastefully decorated with appropriate arches and mottoes. An essay was read by a lady of the Class of 1890. At the Camp-Fire C. L. S. C. songs were sung and toasts proposed and responded to.

The C. L. S. C. received an impetus at this session of the Assembly, and it is the opinion of all who have expressed themselves, that the work not only is a source of great pleasure, but that it affords most valuable opportunities for the cultivation of heart and mind.

Silver Lake, New York. The dedication of the new Hall of Philosophy at Silver Lake Assembly was the pleasant ceremony on the morning of Opening Day, July 16. The building contains a music hall and eight large class rooms, and is beautifully located in the new St. Paul's Grove.

On the following day the classes began their three weeks' work. The attendance was large in the many departments. Courses were offered in eight branches of Bible study, in Language, Music, Art, Oratory, Stenography, Typewriting, Penmanship, Memory, and Physical Culture. During the Woman's Foreign Missionary Society Institute, which was in charge of Mrs. Wm. Butler, one of the founders of the society, two courses of lectures on missions were given.

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mas from his hand. The class numbered twenty-six, several of whom had taken Seal courses. A Round Table with a Camp-Fire, music, and illumination closed the day. Dr. Hale had on a previous occasion offered a prize for the best translation of Simondes' epitaph on the Three Hundred at Thermopylae. Thirty-one versions were given him, the prize being awarded for the following rendering:

"Go say to Sparta, stranger, here we lie,
Her loyal sons; she taught us how to die."

On Missionary Day Dr. M. H. Bixby, who has devoted twelve years to mission work in Burmah, lectured on "Facts from Foreign Mission Fields." On Temperance Day two ringing addresses for the cause of temperance were the special features. There was a large attendance on Young People's Day, and the speakers presented the work and methods of the Young People's Society of Christian Endeavor.

The classes in Normal work were in charge of the Rev. A. L. Gerrish and C. B. Stout; Mrs. M. D. Shepard conducted the department of Music; Charles H. Wilson had the Art and Literary department; and the Rev. E. E. Hale cared for the C. L. S. C. and conducted the daily Round Tables.

Among the popular entertainments were Shakspearean Readings by Prof. James E. Murdoch, a stereopticon lecture by the Rev. E. P. Gilman, an account of "A Trip Around the World" by Dr. Knox, two lectures by Mr. Hamlin Garland, and the Rev. Robert Nourse's discourse on "Dr. Jekyll and Mr. Hyde." Two days of the session were devoted to excursions on the lake and to the White Mountains.

Blackpool. The National Home Reading **England.** Union, of England, opened its first summer Assembly, on the 17th of July, at Blackpool, a popular English sea-side resort. The likeness of this Assembly to Chautauqua is even more striking than that of the Oxford Summer School. In organization it is identical with, and in methods and aims very similar to, Chautauqua, and finds in the latter a very encouraging and hopeful model. The chairman in opening the first meeting said: "This Home Reading scheme has been tried in the United States with the greatest possible success. In America, in 1874, some few hundreds of school teachers met together at Lake Chautauqua, in New York State, to refresh their bodies, weary with long work, and also to amuse and instruct their minds. From that Assembly an organization has grown up which is now flourishing and fulfilling an important function. Its educational force has come to be admitted by the most distinguished men of every shade of thought in the United States."

This experiment at Blackpool has as its promoters some of England's best scholars and thinkers in educational matters, and it is believed and hoped that great good will come from it. The founder of the National Home Reading Union, Dr. Paton, is at its head. An action was taken at the late meeting in regard to the University-Extension Scheme which might be wisely followed at the American Assemblies. The following resolution was proposed and unanimously carried: "That the reading circle to be formed in connection with the Home Reading Union may render important service to the cause of higher education, not only by taking their members through the course of study prescribed by the Union, but by stimulating their interests in intellectual pursuits and encouraging them to take advantage of the assistance offered to students by the local lectures of the University-Extension movement."

Oxford. The Oxford Summer School, **England.** which was last year instituted with such success, was continued this year. The session, however, was much longer, extending over some four weeks, three of which were devoted largely to regular class work conducted by course lectures. The remaining days were given up to entertainments and popular lectures. This school is similar in aim and method to the Chautauqua Summer School, and owes to the Chancellor of the latter in a measure its origin. Its objects are to give students direction in study by means of lectures, to extend to them for a time the advantages and attractions of a residence at a great university, and to encourage definite and systematic home study. Lectures were given on history, literature, science, and art; in introduction to courses of reading; before university lecturers; and, lastly, of a general and popular nature. Conferences were held for the consideration of various subjects. Varied means for recreation were provided.

Prof. J. D. McClure, of Trinity College, Cambridge, England, and also local lecturer at Queen's College, London, has been active in aiding the Oxford School, and visited Chautauqua in the past summer expressly for the purpose of studying the Chautauqua Movement. Visits of friendship and a desire to see the country were also in his mind, but the root idea with which he started was Chautauqua. He was invited to aid the Blackpool gathering in their enterprise, but when he sent them word he was going to America, they said, "Go, by all manner of means, learn all you can, and come back and help us." In speaking of his impressions at Chautauqua, he said, "You have the great advantage here, that Chautauqua sprang from a religious organization, and you breathe here a pure re-

ligious atmosphere. Our summer schools and meetings are thus far purely secular, and we have not yet been able, as you have, to base our work on a religious ground."

Acton Park. The Class of '93 formed at Acton Park, bids fair to be the banner class of that Assembly. The other classes were largely represented; they met daily at the Round Tables for an hour of counsel.

The session lasted from July 24 to August 15, closing with the exercises of Recognition Day, on which occasion eleven diplomas were presented. On that day at 2 p. m. a procession of Chautauquans, consisting of all the graduates and undergraduates, formed at the band-stand and marched to the Tabernacle. On the east side of the Tabernacle had been located a gateway, and two arches covered with oak leaves. Under these the Class of '89 passed. The graduating address was delivered by Chancellor Creighton, of Nebraska University. His subject was "Education." He quoted Pope Gregory's statement, "Ignorance is the mother of devotion," adding, "He told the truth when all knowledge was centered in a few brains and all government in a few hands. In a monarchy it has never been found necessary that the people should have much brains, or that the same should be cultivated. But in a republic, from the very nature of the government, all this is changed." The C. L. S. C. met again at the five o'clock Vesper service, and at six o'clock at a banquet where congratulations were exchanged and farewells said.

The management decided to enrich next year's program with many popular features.

Colfax. The first Colfax Assembly was held Iowa. at Colfax, Iowa, July 9-19. The Rev. S. N. Vail, Assistant Superintendent of Instruction, was prominent in the work. The Normal class was conducted daily by the Rev. J. C. W. Coxe, D.D. The Rev. Dr. S. E. Wishard, Iowa correspondent of *Herald and Presbyter*, gave daily lectures upon the Bible. Prof. M. L. Bartlett had charge of the chorus and gave two concerts. Prof. Frank Beard was as usual happy in his Chalk-Talks.

Among the lecturers were President Yates, of Grinnell College, the Rev. Alexander McKenzie, of Cambridge, Dr. Dunning, of Boston, Mass., and Mrs. Aldrich, of the W. C. T. U.

Temperance Day was observed by several lectures. On Young People's Day three hundred thirty societies of Christian Endeavor were represented, conducted by the Rev. J. B. Donaldson, of Minneapolis.

I-Oct.

The exercises of Recognition Day, July 15, were conducted by Dr. McKenzie. There were nine members in the graduating class.

East Epping. The Hedding Academia, or New Hampshire. Summer School, at East Epping, August 2-24, was a most gratifying success. It was under the general management of the Rev. O. S. Baketel, of Portsmouth, N. H., who labored indefatigably not only during the session of the school and Assembly, but for months previous that he might secure for the different departments the best talent available. The Sunday-school Normal work was most efficiently conducted by Miss J. B. Stuart, who had charge of the Primary department and the Look-about Club, and Miss Nellie M. Brown, who directed the studies of the advanced Normal and the first year's course. The Music class, taught by Mrs. Mitchell, was large and enthusiastic, and gave surprising results.

Dr. Rodemann, of Howard College, gave instruction in French and German, and Prof. Hamlin Garland gave a very interesting series of talks upon American Literature. The Art department in charge of Miss Folsom and the Cooking School under Miss Nichols were largely attended. The department of Christian Work held a three days' session in which subjects of vital interest and importance to Christian workers, both ministers and laymen, were discussed by leading minds of different denominations.

During the School and Assembly there were four concerts, fifteen lectures, five illustrated with stereopticon, readings by Prof. Garland and Mr. Fred D. Losey.

Recognition Day was warm and pleasant. The procession, headed by the band, wound through the avenues to the campus, thence to Chautauqua Hall, where the address was given by the Rev. O. P. Gifford, D.D., upon "The Secret of Contentment." At the close of the address the Rev. O. S. Baketel presented diplomas to twenty graduates of the Class of 1889, four to graduates of the Chautauqua Normal Union, and forty-three certificates to members of the Summer School, who had attained a rank of 80 per cent or more in their examinations. Members of the Art, Literature, and Cooking classes did not take examinations, and hence received no certificates.

Saturday was set apart as Ramble Day. Excursions could be taken any day at reduced rates to Old Orchard, York, or Hampton beaches, and to the Shoals. The closing day of the Assembly there was a grand excursion to the Shoals, attended by a large number.

TALK ABOUT BOOKS.

Autobiography of
Frances E. Willard.

It has been said that if Frances Willard should push a plank out into the ocean and should beckon the white ribbon women to follow her to the end of it, they would go without question. Their answer to this is that her planks have always proved to be bridges across to delectable islands, and their faith in the future is justified by the past. It is not surprising that the life of a woman who has this power to lead others, who by her enthusiasm carries them along with her, and whose undertakings success has so often crowned, should be of surpassing interest to her devoted followers and that they should ask her to tell the story of her life,* that it might be an inspiration to them. This last Miss Willard has done with a frankness that suggests Boswell's "Life of Johnson," but with the underlying motive that it might give pleasure and do good—both of which it will doubtless do. Never have we seen an autobiography that revealed more completely the inmost thoughts and purposes of a life and the influences that shaped it. In the record of her childhood, school-girl, and school-ma'am days, one traces the same characteristics and sees the same vim and hard work that make her to-day the leading temperance worker and organizer. It is interesting to compare her first beginnings in this line with her present status, to follow her development into the leader of the temperance hosts, and from this, one more step—the plunge into "a woman in politics"—which last has brought so much criticism—but when one takes a position, as she does, on the ground, "I can do no other, God help me," who is the one to decide upon the wisdom of the act? The strong point made and emphasized throughout the book, is work and pray and the result must be success.

Memories of
the Crusade.

The labor and weariness of philanthropic effort are vividly set forth in Mrs. Stewart's "Memories of the Crusade."† It was eminently fitting that the leader in that great uprising against the wrongs inflicted by the liquor saloons, should have been chosen to write its history. This she has done

*Glimpses of Fifty Years. The Autobiography of an American Woman. By Frances E. Willard. Published by the Woman's Temperance Publication Association. Chicago, Philadelphia, Kansas City, Oakland, Cal.: H. J. Smith & Co.

†Memories of the Crusade. By Mother Stewart, the Leader. Columbus, O.: William G. Hubbard and Co. 1889.

with the simple directness and the lack of self-consciousness which characterized all her public speeches. It is the record of a warfare unique in its methods and far-reaching in its results, of incidents of thrilling interest and fraught with deeply instructive teachings. Not the least of its lessons is that taught by this noble woman's life of Christian heroism and self-denial.

Lodge's
Washington.

A new work on Washington is as severe a test as any to which an author could subject himself; that Mr. Lodge stood it well a reading of his book* will show. The work is presented rather in the form of a character study than of a personal history; what the man was in himself and not what he did, is the main object sought. Myths, traditions, and much that has been commonly reported as truth are brusquely set aside, and the sparsely traced events are well chosen and brought out in strong high lights. From a close study of the times and the surroundings, the author draws the lessons which he thinks Washington—the silent man who never revealed his thoughts—must have drawn, and in them seeks the motive powers which governed him in active life. Emphasis is laid on the fact that he never showed himself a novice in anything, but as warrior and statesman from the beginning of his difficult career was always equal to the occasion. In establishing a new government among a people freed from monarchical rule, and with no model to follow, he steadily guided them and held in check all such wild dreams as swayed the liberated Parisians and led to the Reign of Terror. Washington thus pictured seems as some great prophet who saw in all the events of his time the vast meaning which they held for the future. The interest awakened at the beginning of the book increases as the reader feels that he is following the lead of a dauntless champion, although he is one who occasionally shows the bad traits of a hero worshiper. The author's zeal occasionally leads him too far, as is shown in his trying to prove groundless every adverse criticism however trivial. He frequently takes issue over unimportant matters in no kindly spirit with leading historians and writers as loyal as himself to Washington. He is, besides, more than once guilty of dwarfing other characters in order to throw Washington into greater prominence.

*George Washington. By Henry Cabot Lodge. In the American Statesmen Series. New York: Houghton, Mifflin and Company. Two vols. Price \$2.50.

Historical Studies.

The religious and political beliefs of men and their play upon each other are the subjects of Mr. Fiske's historical study into the Beginnings of New England.* He dwells upon the convictions, ambitions, and characters rather than deeds and thus gets at the causes which produced that peculiar early history of New England. The perspective he gives in introducing the subject is sufficient to help the reader to a good understanding of the growth of the opinions of the times and to put him on his feet for walking with the commonly misunderstood Puritans. The treatment is clear, precise, and interesting. Mr. Fiske regards his subject as "perhaps the most significant among the significant events which prophesied the final triumph of the English over the Roman idea" (of conquest), and he handles it with the dignity and care which become so important a theme. It is the kind of historical study which arouses a human interest in a period.

A new volume in the series of "English History from Contemporary Writers" is "The Crusade of Richard I."† As implied in the name given to the series, this book is made up of extracts from the literature of that time. All sources have been thoroughly searched and made to contribute their share, and the selections are so arranged as to carry the history forward in a connected narrative. That this could have been done so smoothly and in such a satisfactory manner forms one of the pleasant surprises of the work. It impresses one as a skillfully arranged puzzle—very complete when once it is all put together. The variety in authorship offers a fine opportunity for the study of literature, and also gives views of the Third Crusade and its leaders obtained from all stand-points, those of friends and foes, and indifferent lookers-on. It is a store-house of anecdotes and quaint expressions.

"The Story of Vermont,"‡ "The Leading Facts of French History,"§ and "Burgoyne's Invasion of 1777"¶ are new books from three separate series of publications. Mr. Heaton, the author of the first, had a wide and rich field in which to labor and his work shows that he justly estimated

it. Vermont has a history full of tales of war and glories of peace, of industrial developments and social institutions, all of which have been depicted in a truthful and popular manner.—Among the good points to be noted in Montgomery's French History, which does not pretend to be anything more than an outline, are the fine topical analysis of the subject, and the clear and compact summary which follows each chapter.—The author of "Burgoyne's Invasion" clearly appreciates the rank this remarkable campaign held in the Revolutionary struggle and proceeds in a masterly manner to give the details of the event. His accurate description is supplemented by numerous maps and diagrams.

Biography. A just and impartial history of the Irish patriot Henry Grattan,* is the one written for the series of the "International Statesmen." A simple and straightforward narration of the events crowding that noted period, in which Grattan was a conspicuous leader, forms the bulk of the book. The author avoids taking the part of a controversialist, and he does not extol the man about whom he writes or censure his opponents; actions and words are related in full and the reader is left to draw his own conclusions concerning them. Very seldom does the author express opinions in regard to a question, one exception being his consideration of the union of England and Ireland, and this shows him to be clear-sighted, candid, unprejudiced, capable of weighing both sides of a question and deciding fairly.

Two useful and interesting books have been added to the lists of educational works—the "Life of Pestalozzi"† and the "Autobiography of Froebel."‡ The former is a new translation of the well-known work written by De Guimps, which did so much to awaken popular interest in its subject. It tells in a direct and agreeable manner the story of the great philanthropist who led a life of self-renunciation in order that he might teach the poor and ignorant and lead them into better ways of living. Froebel, the founder of the kindergarten system, evidently wrote the history of his own life, dwelling at length upon his sad childhood, in order that its mistakes might be avoided in the case of other children. He was for some time a pupil of Pestalozzi whose name became the watchword of his life, and he

*The Beginnings of New England or the Puritan Theocracy in its Relations to Civil and Religious Liberty. By John Fiske. Boston and New York: Houghton, Mifflin & Company. 1889. Price, \$2.00.

†The Crusade of Richard I. Selected and arranged by T. A. Archer. New York: G. P. Putnam's Sons. Price, \$1.25.

‡The Story of Vermont. By John L. Heaton. Boston: D. Lothrop Company. Price, \$1.50.

§The Leading Facts of French History. By D. H. Montgomery. Boston: Ginn & Company.

¶Burgoyne's Invasion of 1777. By Samuel Adams Drake. Boston: Lee and Shepard. Price, 70 cents.

*Life of Henry Grattan. By Robert Dunlop. Philadelphia: J. B. Lippincott Co. Price, 75 cents.

†The Life of Pestalozzi. By Baron Roger De Guimps. Translated by Margaret Cuthbertson Crombie.

‡Autobiography of Friederich Froebel. Translated and Annotated by Emilie Michaelis and H. Keatley Moore. Syracuse, N. Y.: C. W. Bardeen.

gives at length the methods employed by the latter in his work. Both books are among the best that could be added to a teacher's library.

In "Every-Day Biography" a bright thought has taken form in a reference book which will be found useful to teachers and others who may desire to select Authors' Days or Memorial Days. Under each day of the year is placed a list of eminent persons whose birth-days fell on that date, and with each name the bare outlines of biography are given. The book is valuable in that it gives one a good clue to needed information.

Helps for /
Bible Students.

An exhaustive Bible study on a plan quite out of the usual course is undertaken in "Bible Work."† It is a vast system of compilations made from the eminent Biblical scholars of the world. Volume III. treats of the books included between the Pentateuch and Ezra. After two preliminary chapters considering the Scriptures in general, and the books included in this volume taken collectively, the work proceeds to the detailed study of the separate verses and chapters, taking them up after the manner of a commentary. These comments, gathered from such wide and various sources, focus upon each point under consideration the highest written thoughts concerning it, and the reader cannot fail to be impressed with the unanimity in the conclusions reached. Full explanations and descriptions are given, and there are numerous maps, pictures, and helpful tables.—The new edition of Professor Kurtz's "Church History"‡ has been carried forward through the second volume, which covers a period extending from the tenth to the sixteenth century, or from the Crusades to the establishment of the Reformation. As in the first volume, so much has been attempted that each subject is necessarily dealt with in a most concise manner, but the treatment is so incisive and graphic that clear general views are obtained. A man of decided opinions, the author so freely expresses them in this work as to leave no doubt regarding his own predilection for the Lutheran church.—Dr. Parker has carried his great work, "The People's Bible,"|| through the tenth volume. Every successive number adds to the admiration awakened by the undertaking, and the whole is fast making itself a necessity to those who have examined any

* Every-Day Biography. By Amelia J. Calver. New York: Fowler & Wells.

† Bible Work. Prepared by J. Glentworth Butler, D.D. New York: Funk & Wagnalls. Vol. III. Price \$4.00.

‡ Church History. By Professor Kurtz. Translated by the Rev. John Macpherson, M.A. In three volumes. New York: Funk & Wagnalls. Price, per vol., \$2.00.

|| The People's Bible. By Joseph Parker, D.D. New York: Funk & Wagnalls. Price per vol., \$2.50.

part of it. It has been aptly described as "a cross between a commentary and series of sermons without the technicalities of the one and the tediousness that sometimes attaches to the other." Volume X. contains those inimitable discourses of the author upon the Scriptures included between 2d Chronicles, xxi., and the book of Job.—"New Notes for Bible Readings" is a complete work. A full index enables one readily to turn to all the subjects, each one of which will be found to be prefaced with all needed definition and exposition. Then follow in a tabular form all the Bible references bearing upon the leading thought and all of its ramifications. It is a work of research and labor excellently carried out.

Missionary
Works.

The Centenary Conference on Protestant Missions held in London, June 9-19, 1888, at which 1,600 members were enrolled, was one of the great events in recent ecclesiastic history. A minute account of it is embodied in the very able Report † made by the Secretary. No expense of money or of labor has been spared in making this published account complete and accurate, and at the same time instructive and interesting to the general reader. We know of no stand-point where can be obtained a better and clearer view over the whole missionary field and an insight into all its departments of work than from the two volumes comprised in this Report.—The Missionary Year-Book, ‡ the first volume of which is now published, grew out of a suggestion made during the Centenary Conference. The need of such a work is very apparent and the able manner in which the initial volume has been prepared leaves no doubt that the project will continue, and that each succeeding year will see a similar publication. A brief history embracing all leading facts and the present status of all the principal Protestant missionary societies in America and Europe are given. Maps, tables of statistics, and a remarkably full index complete the work.

Poetry.

The much be-poemed "King's Daughter" sets her name to the opening verses of a collection by Rebecca Palfrey Utter. || The author's work is of very

* New Notes for Bible Readings. By S. R. Briggs. New York and Chicago: Fleming H. Revell. Price, \$1.00.

† Report of the Centenary Conference on the Protestant Missions of the World. Edited by the Rev. James Johnston, F. S. S. New York and Chicago: Fleming H. Revell. Price, \$2.00.

‡ The Missionary Year-Book for 1889-90. American Edition. Edited by the Rev. J. T. Gracey, D.D. New York and Chicago: Fleming H. Revell. Price, \$1.25.

|| The King's Daughter and Other Poems. By Rebecca Palfrey Utter. Boston: J. Stillman Smith and Co.

unequal merit. Notably bad is the second of "Four Valentines," in which the absent friend is addressed alternately as *thou* and *you*; unusually bright, original, and well-written are "The False Alarm," "Three O'Clock in the Morning," and "The Conspiracy of the Weathercocks"; a few read as if penned when not in writing mood; but nearly all are cheerful, a good thing to be able to say about a book of poems.—"Our Glorified"* is a collection of poems of consolation for parents who have been bereft of children. The selections are those that have sprung from personal sorrow and are full of tenderness and beauty. Among them are Riley's "When Bessie Died," Stoddard's "A Household Dirge," and "When first He Died," "Our Angels," by Helen Hunt Jackson, "Little Hands" by Swinburne, and many others that have awakened a response in aching hearts, and brought to them comfort and strength. The volume is daintily bound and recommends itself as a gift-book.—Selections from "The Poems of Landor"† form a recent addition to "The Canterbury Poets" series. The Introduction by Ernest Radford gives a brief statement of the poet's work with a critical estimate showing a keen appreciation of its beauty which, however, has not blinded him to its defects. What he calls "the hard task of an editor" has been very successfully done; the scenes taken from the dramas are the strongest ones and show to best advantage Landor's wonderful genius of language; the verses reveal varying moods and are uniformly charming and finely wrought. The book is a praiseworthy effort to present to the public a poet who is too little read.—The following lines show the character of Mr. Rice's book of one hundred forty-two pages of alleged "Verses":‡

"Just why I love thee it is hard to tell;
Thou art not handsome in the strictest sense."

"Waste not fine marble o'er my grave;
I only wish two slabs of modest size,
To mark my length and tell the name I bore."

"For what are mere scratches here, when at the fountain's end
The pure, crisp honey clogs and over fine expression tips?"

*Our Glorified. Edited by Elizabeth Howard Foxcroft. Boston: Lee and Shepard.

†The Poems of Walter Savage Landor. Selected and edited by Ernest Radford. New York: W. J. Gage and Co.

‡Through Broken Reeds. Verses by Will Amos Rice. Boston: Chas. H. Kilborn.

Miscellaneous Notes.

Two books of importance in view of the churches' newly revived interest in the work of deaconesses, have been issued recently.* The action of the General Conference of the Methodist Episcopal Church of 1888 in providing for the appointment and oversight of deaconesses, showed a deep appreciation of the value of woman's work in the church. That this new force may achieve the greatest amount of good as an evangelizing power, just such a clear exposition of its aims, methods, and successful organizations as is here set forth is needed. Both books are able and comprehensive, and with their fertility of suggestion will help to a wise guidance of the cause which they advocate.

Louise Manning Hodgson in her "Nineteenth Century Authors"† is a wise guide to the inexperienced in the fields of literature; and how valuable the information given only those whose advantages are limited, can know. For instance, she selects some noted English or American author and gives a list of the biographical writing about him, significant facts in his life, a group of contemporary authors, indicates important selections from his works, gives a list of his friends and numerous books of reference. An additional and useful feature would be to give in connection with the author and title of these works, the name of the publisher.

Enthusiasm for Chautauqua reaches a climax in "Counting the Cost," but it usefully takes a practical form, making plain the Chautauqua way to the uninitiated. The guide has left nothing unsaid that could be said of this charming place. How to get there, what it costs, what to do when there, the advantages of a season spent there, are told in detail.

In 1887 Dr. Brandes, the Danish scholar and writer, was invited by the Russian Authors' Association to deliver a course of lectures in St. Petersburg and Moscow. Accepting the invitation, and, after his duties were finished, traveling through other parts of Russia, he had a fine opportunity for studying the land and the people. The results of this visit he has embodied in a

*Deaconesses Ancient and Modern. By Rev. Henry Wheeler. Price, \$1.25. Deaconesses in Europe and their Lessons for America. By Jane Bancroft, Ph.D. Price, \$1.00. New York: Hunt & Eaton. Cincinnati: Cranston & Stowe.

†A Guide to the Study of Nineteenth Century Authors. By Louise Manning Hodgson, Professor of English Literature in Wellesley College. Boston, New York, and Chicago: D. C. Heath & Co.

‡Counting the Cost, or a Summer at Chautauqua. By Cornelia Adele Teal. Illustrated. New York: Hunt & Eaton. Cincinnati: Cranston & Stowe. Price, \$1.10.

book called "Impressions of Russia."* It shows the author to be a man of keen observation and of good judgment, one who investigated for himself and never accepted assertions and theories simply because they had been of long standing. His statements are unhackneyed, his reasoning original, his conclusions reliable. His style of writing, when translated into En-

glish, is a little abrupt and jerky, but forcible, and not unpleasant. A good portion of the book is devoted to Russian authors and their works.

The list of valuable compilations known as the "Camelot Series" is lengthened by adding Lord Chesterfield's famous letters to his son.* They are prefaced by an admirable essay on that worldly-wise oracle of politeness.

*Impressions of Russia. By Dr. Georg Brandes. Translated by Samuel C. Eastman. New York: Thomas Y. Crowell. Price, \$1.25.

*Letters Written by Lord Chesterfield to his Son. Selected by Charles Sayle. New York: W. J. Gage & Co.

SUMMARY OF IMPORTANT NEWS FOR AUGUST, 1889.

HOME NEWS.—August 1. The national monument in honor of the Pilgrims dedicated at Plymouth, Mass.—Destructive floods in Pennsylvania, Maryland, and Virginia.

August 3. The Sioux chiefs at Standing Rock, Dakota, accept the Government treaty providing for the giving up of their lands.

August 5. The business portion of Spokane Falls, Wash., destroyed by fire; the losses amount to \$10,000,000.—The President appoints Prof. Wm. T. Harris Commissioner of Education.—The Constitutional Convention at Olympia votes to submit the question of prohibition to the people of Washington.

August 6. The American Electric Light Association in annual session at Niagara Falls.

August 7. The Catholic Total Abstinence Union of America in session at Cleveland, Ohio.—Bozeman is chosen as the capital of Montana at the Constitutional Convention.

August 10. An earthquake of forty-five second's duration is felt in the Adirondack region.

August 13. Over five hundred houses submerged by a flood in Lincoln, Neb.

August 14. Death of the Rev. Dr. Bayliss, editor of the *Western Christian Advocate*.

August 16. The North Dakota Constitutional Convention selects Bismarck as the state capital.

August 19. Extensive forest fires in Montana.

August 22. President Harrison delivers an address at the laying of the corner-stone of the soldiers' monument in Indianapolis, Ind.

August 25. Death of Henry Shaw, the millionaire philanthropist of St. Louis, Mo.

August 26. Opening of the Grand Army national encampment at Milwaukee, Wis.

August 28. The twelfth annual session of the American Bar Association opens in Chicago, Ill.—Gen. Russell A. Alger elected commander-in-chief of the G. A. R., at the Milwaukee encampment.

August 29. Dr. Oliver Wendell Holmes celebrates his eightieth birthday.—The Republicans of South Dakota in convention at Huron, adopt resolutions in favor of prohibition.

FOREIGN NEWS.—August 2. Emperor William lands in England and visits Queen Victoria at Osborne.

August 3. Gen. Grenfell routs the dervish army near Toski.—An encounter in Crete between the insurgents and the Turkish soldiers.

August 5. Emperor William reviews the British fleet.

August 6. Alfred Tennyson celebrates his eightieth birthday.

August 8. Gen. Boulanger's trial before the High Court of the Senate begins.

August 12. Emperor Francis Joseph visits Emperor William at Berlin.

August 13. The French Senate Court finds Gen. Boulanger guilty of conspiracy and an attempt at treason.

August 16. The Czar confers the cross of St. Stanislaus upon ex-Capt. Grueff, the abductor of Prince Alexander of Bulgaria.

August 17. Prince Bismarck and Count Kalnoky modify the Austro-German treaty.

August 19. King Humbert confers the title of count on Thomas A. Edison.

August 23. Strike of forty thousand dock laborers in London.

August 24. Hippolyte's triumphant army enters Port-au-Prince, Legitime having left the city after accepting Hippolyte's terms.

August 26. Thousands of other laborers join the striking dockmen in London.

August 27. The American Association for the Advancement of Science meets in Toronto.

August 30. The Queen prorogues the English Parliament until Nov. 16.